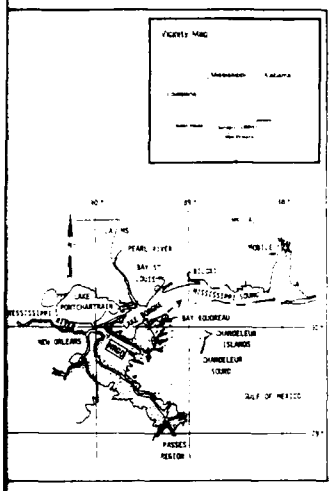
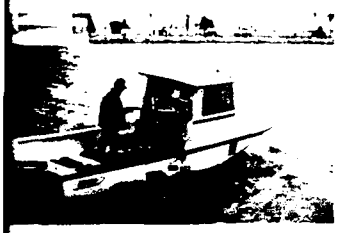
US Army Corps of Engineers





HYDRAULICS LABORATORY

TECHNICAL REPORT HL-90-7

# MISSISSIPPI RIVER-GULF OUTLET, LOUISIANA

## Field Data Report

by

T. L. Fagerburg

Hydraulics Laboratory

DEPARTMENT OF THE ARMY
Waterways Experiment Station, Corps of Engineers
3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199



August 1990
Final Report



Prepared for US Army Engineer District, New Orleans
New Orleans, Louisiana 70160-0267

Destroy this report when no longer needed. Do not return it to the originator.

The findings in this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products.

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE

## REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

| | |
|---|---|
| 1a. REPORT SECURITY CLASSIFICATION<br>Unclassified | 1b. RESTRICTIVE MARKINGS |
| 2a. SECURITY CLASSIFICATION AUTHORITY | 3. DISTRIBUTION/AVAILABILITY OF REPORT<br>Approved for public release; distribution unlimited. |
| 2b. DECLASSIFICATION/DOWNGRADING SCHEDULE | |
| 4. PERFORMING ORGANIZATION REPORT NUMBER(S)<br>Technical Report HL-90-7 | 5. MONITORING ORGANIZATION REPORT NUMBER(S) |
| 6a. NAME OF PERFORMING ORGANIZATION<br>USAEWES<br>Hydraulics Laboratory<br>6b. OFFICE SYMBOL (If applicable)<br>CEWES-HE-P | 7a. NAME OF MONITORING ORGANIZATION |
| 6c. ADDRESS (City, State, and ZIP Code)<br>3909 Halls Ferry Road<br>Vicksburg, MS 39180-6199 | 7b. ADDRESS (City, State, and ZIP Code) |
| 8a. NAME OF FUNDING/SPONSORING ORGANIZATION<br>USAED, New Orleans<br>8b. OFFICE SYMBOL (If applicable) | 9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER |
| 8c. ADDRESS (City, State, and ZIP Code)<br>PO Box 60267<br>New Orleans, LA 70160-0267 | 10. SOURCE OF FUNDING NUMBERS<br>PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO. |

11. TITLE (Include Security Classification)
Mississippi River-Gulf Outlet, Louisiana; Field Data Report

12. PERSONAL AUTHOR(S)
Fagerburg, Timothy L.

| 13a. TYPE OF REPORT | 13b. TIME COVERED | 14. DATE OF REPORT (Year, Month, Day) | 15. PAGE COUNT |
|---|---|---|---|
| Final report | FROM _____ TO _____ | August 1990 | 172 |

16. SUPPLEMENTARY NOTATION
Available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

| 17 COSATI CODES | | | 18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) |
|---|---|---|---|
| FIELD | GROUP | SUB-GROUP | Current; Salinity; Water-surface elevation; Current speed; Suspended Sediment; Field survey; Synoptic field data |
| | | | |
| | | | |

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Water levels, current speeds and directions, salinities, and suspended sediment concentrations were measured in the Mississippi River-Gulf Outlet Canal, New Orleans, LA, in October and November 1988. The prototype data were collected as part of a study to incorporate these data in a numerical model for determination of shoaling rates. This report describes the equipment and procedures used in the data acquisition and presents tables, plots, and summaries of all the data collected.

Attempts to correlate ground truth suspended sediment data with satellite data were unsuccessful due to cloud cover during the periods data were obtained.

| | |
|---|---|
| 20. DISTRIBUTION/AVAILABILITY OF ABSTRACT<br>☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS | 21. ABSTRACT SECURITY CLASSIFICATION<br>Unclassified |
| 22a. NAME OF RESPONSIBLE INDIVIDUAL | 22b. TELEPHONE (Include Area Code) / 22c. OFFICE SYMBOL |

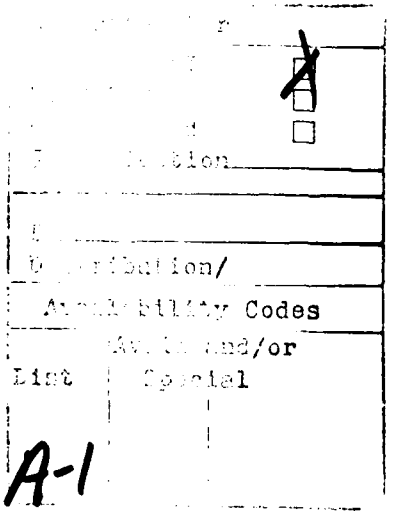
DD Form 1473, JUN 86 Previous editions are obsolete. SECURITY CLASSIFICATION OF THIS PAGE

# PREFACE

The field investigation reported herein was conducted during the period 26 October through 27 November 1988 by the US Army Engineer Waterways Experiment Station (WES), Vicksburg, MS, to provide the necessary data for support of the Mississippi River-Gulf Outlet Channel Project, New Orleans, LA. This effort was funded by the US Army Engineer District, New Orleans (LMN), under the project management of Mr. Bill Garrett, LMN.

Personnel of the WES Hydraulics Laboratory (HL), Estuaries Division (ED), Estuarine Processes Branch (EPB), performed the work under the general supervision of Messrs. F. A. Herrmann, Jr., Chief, HL; R. A. Sager, Assistant Chief, HL; W. H. McAnally, Jr., Chief, ED; and G. M. Fisackerly, Chief, EPB. The data collection program was designed by Messrs. Fisackerly, T. L. Fagerburg, H. A. Benson, and J. W. Parman, EPB. Data reduction was performed by Ms. C. J. Coleman, EPB, and Mr. Fagerburg. Laboratory analysis of water samples was performed by Mr. L. G. Caviness, EPB. This report was prepared by Mr. Fagerburg and edited by Mrs. Marsha C. Gay, Information Technology Laboratory, WES.

Commander and Director of WES during preparation of this report was COL Larry B. Fulton, EN. Technical Director was Dr. Robert W. Whalin.




CONTENTS

CONVERSION FACTORS, NON-SI TO SI (METRIC)
UNITS OF MEASUREMENT

Non-SI units of measurements used in this report can be converted to SI (metric) units as follows:

| Multiply | By | To Obtain |
|---|---|---|
| feet | 0.3048 | metres |
| inches | 25.4 | millimetres |
| miles (US statute) | 1.609347 | kilometres |
| ounces (US fluid) | 0.02957353 | cubic decimetres |

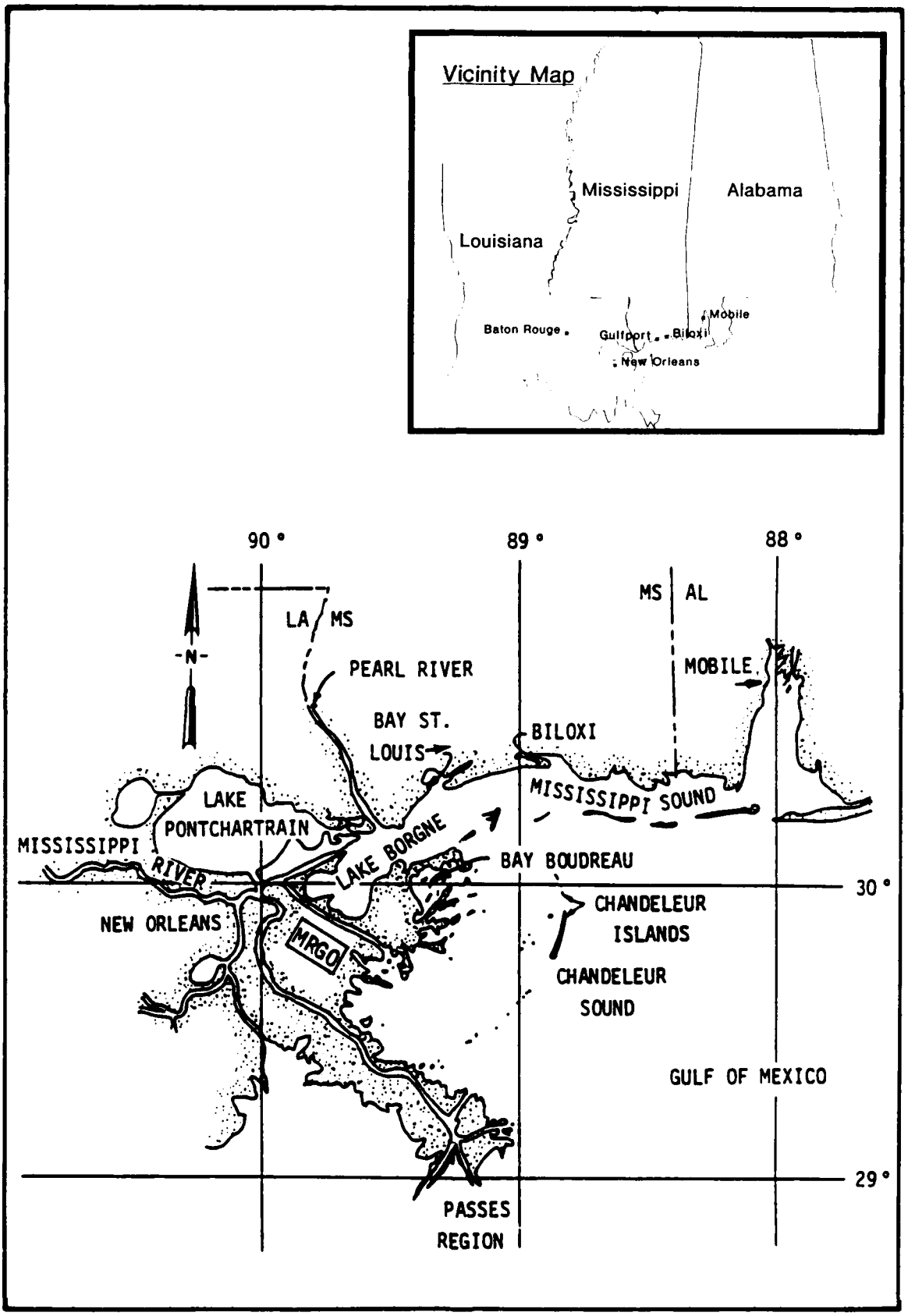



Figure 1. Location and vicinity maps

# MISSISSIPPI RIVER-GULF OUTLET, LOUISIANA

## Field Data Report

## PART I: INTRODUCTION

### Project Description

1. The Mississippi River-Gulf Outlet (MRGO) Canal, as shown in Figure 1, is a 66-mile*-long deepwater channel that extends northwest from deep water in the Gulf of Mexico to New Orleans, LA. The Federal project provides for a 40-ft-deep (mean low Gulf datum) channel for approximately 32 miles where it joins the Gulf Intracoastal Waterway and thence for about 5 miles to a turning basin at its junction with the Inner Harbor Navigation Canal at New Orleans. The project was completed in 1968 to provide a shortcut from New Orleans to the Gulf for ship and barge traffic. The original project channel width was constructed to 650 ft; but due to the wave wash and drawdown from ships transiting the channel, the unstable marsh bank line has eroded to create a channel width of 1,500 ft.

### Purpose and Scope

#### Purpose

2. The primary purpose of this investigation was to obtain information on the water levels, current speeds and directions, salinity concentrations, and suspended sediment concentrations within the MRGO, Lake Borgne, and the connecting channel areas between these two areas. This information was then to be used in a numerical model to determine the expected rates of shoaling in MRGO if the breached bank areas were to widen to a maximum of 5,000 ft. A secondary purpose was to correlate suspended sediment data with satellite thematic mapper data.

#### Approach and scope

3. Three 8-hr surveys were conducted to collect synoptic field data

---

* A table of factors for converting non-SI units of measurement to metric (SI) units is found on page 3.

during peak flow periods in conjunction with LANDSAT satellite overflights of the MRGO study area. The surveys were timed to establish ground truth sediment concentrations for the satellite information. Measurements consisted of the following:

a. Water levels recorded at six locations.

b. Current speed and direction at three ranges.

c. Suspended sediment and salinity profile samples at each range.

d. Discrete water samples taken automatically at two locations.

e. Thematic mapper tapes from the LANDSAT satellite.

f. Wind speed and direction in the study area.

4. This report describes the field investigation methods used to collect the field data and presents the results of the data reduction efforts.

## PART II: DATA COLLECTION EQUIPMENT, PROCEDURES, AND CONDITIONS

### Data Collection Equipment

#### Current speed and direction

5. Each of the boats used in the surveys was equipped to deploy instruments over the side using the portable equipment setup shown in Figure 2.

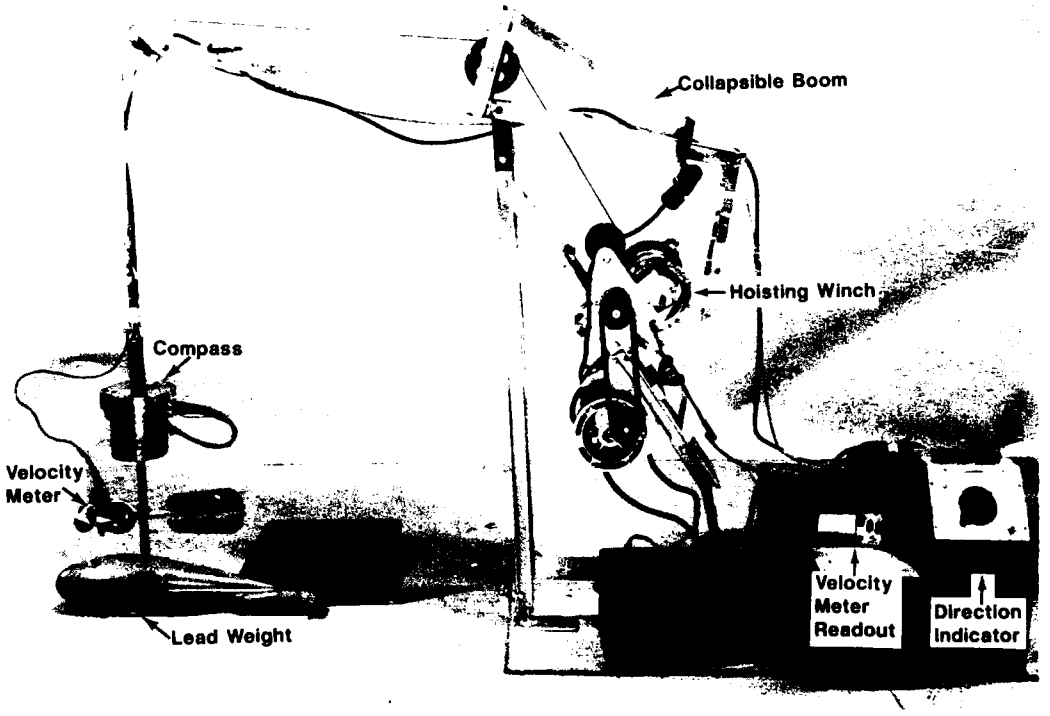



Figure 2. Components of the field instrument assembly

Collapsible aluminum frames were used to support the equipment, and winches with 1/8-in. wire rope were used to raise and lower the velocity and direction equipment. An indicator on the winch displayed the depth of the instruments below the water surface. A Gurley Model 665 velocity meter with vertical axis cup-type impeller and direct velocity readout capabilities was used to measure the current speeds. These meters have a threshold speed of less than 0.2 fps and an accuracy of ±0.1 fps for velocities less than 1 fps. Current directions were monitored with a magnetic directional indicator mounted above the velocity meter on a solid suspension bar. This entire assembly was connected to a streamlined lead weight that held the sensors in a vertical position and oriented them into the direction of the flow. The signal cables from each instrument were raised and lowered with the equipment and connected to the

display units located on the deck of the boat.

Suspended sediment and
salinity water samples

6. Water samples for analysis of salinities and total suspended solids were obtained at each depth at which a velocity reading was taken by pumping the sample from the depth to the surface collection point. The pumping system consisted of a 1/4-in.-ID plastic tubing attached to the current meter signal cables for support. The opening of the sampling tubing was attached to the solid suspension bar at the same elevation as the current meter and was pointed into the flow. A 12-v d-c pump was used to pump the sample from the depth of the meter through 50 ft of the tubing to the deck of the boat where each sample was then collected in individual 8-oz plastic bottles. The pumps and tubing were flushed for approximately 1 min at each depth before the sample was collected.

Automatic water samplers

7. Discrete water samples taken automatically during each survey period and during the periods between the individual periods were obtained using ISCO Model 2700 automatic water samplers, as shown in Figure 3. A typical field installation of these water samplers is shown in Figure 4. The samplers operated from a 12-v d-c battery power source. Samples were collected in 1-ℓ plastic bottles located inside the sampler. The samplers are fully programmable for obtaining any volume of sample desired up to the maximum size of the bottle, for obtaining composite samples, for setting different intervals between samples, and for setting times to begin the sampling routine. When the sampling period was complete, the sample bottles were replaced with empty bottles to begin a new sampling period.

8. Two samplers were used in this study to obtain water samples at the Martello Castle and Shell Beach locations, AWS-2 and AWS-1, respectively, in Lake Borgne as shown in Figure 5. At the locations where these samplers were installed, the intake line from each sampler was positioned at a depth of 3 ft above the bottom for retrieval of the samples. The samplers were programmed to collect one sample per bottle every 373 min during each of the 8-hr survey periods. For the sampling periods between the individual surveys, the samplers were programmed to collect two samples per bottle every 6.25 hr during the peak flood and ebb tides and the slack-water periods.

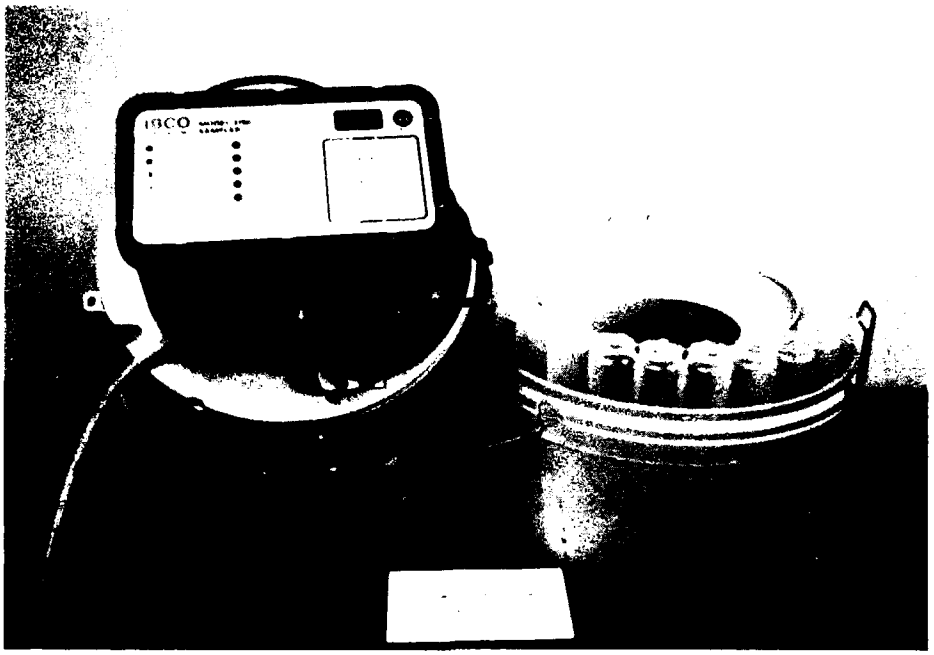


Figure 3. Automatic water samplers

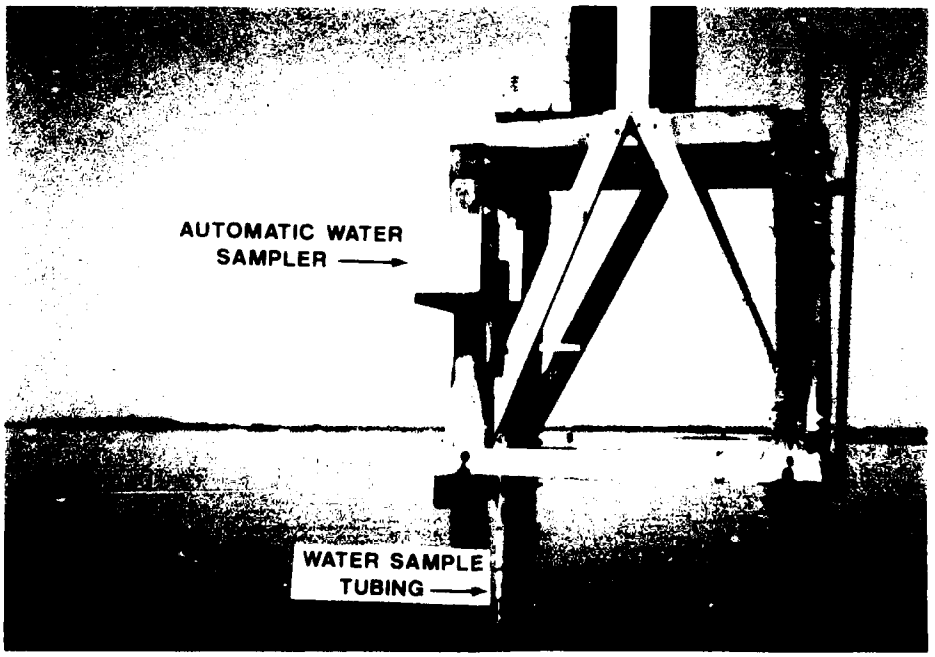



Figure 4. Typical field installation of the automatic water samplers

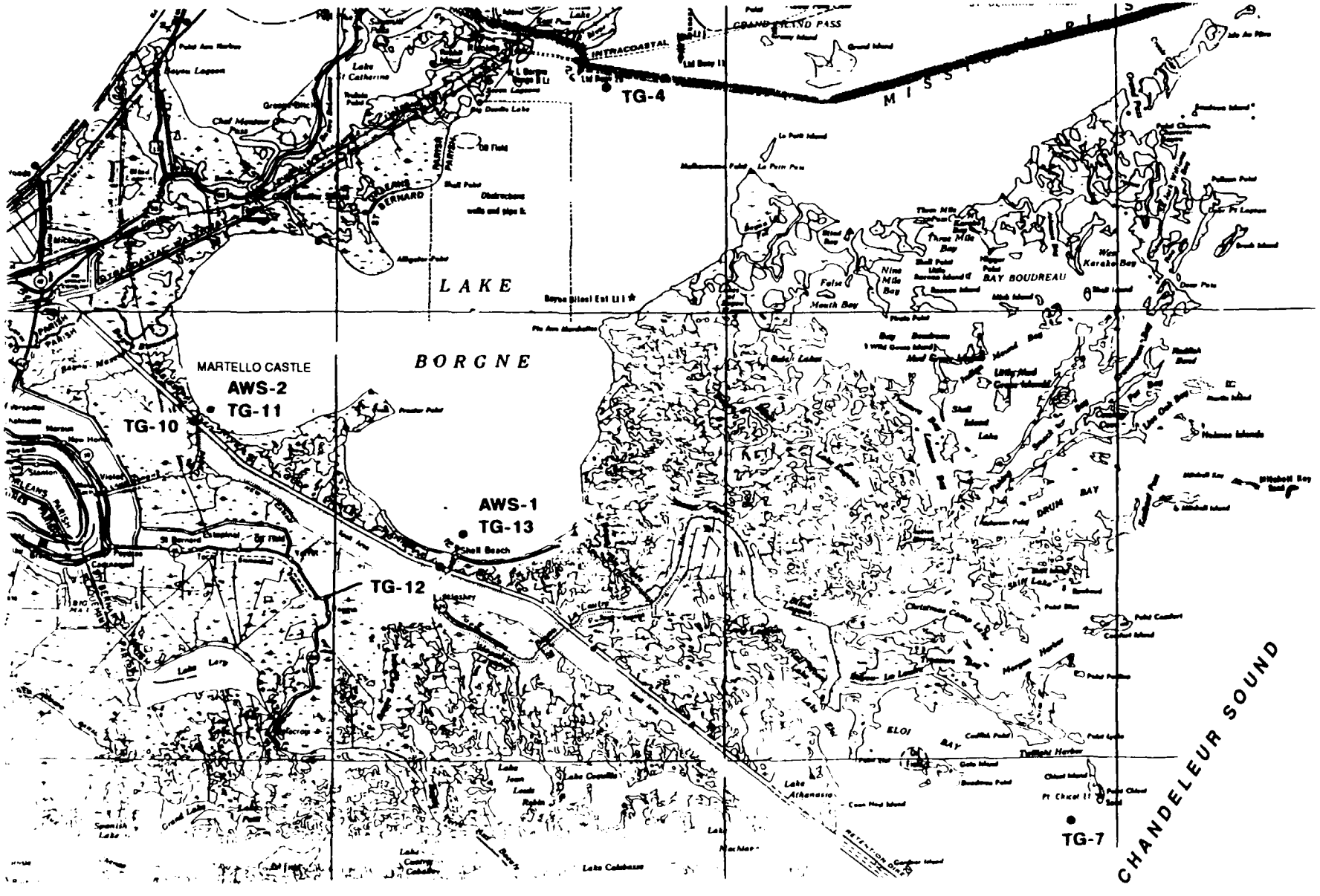



Figure 5. Sampling locations

Tide level recorders

9. Water levels were recorded using ENDECO Model 1029 and Model 1152 solid-state water level recorders similar to those shown in Figure 6. The

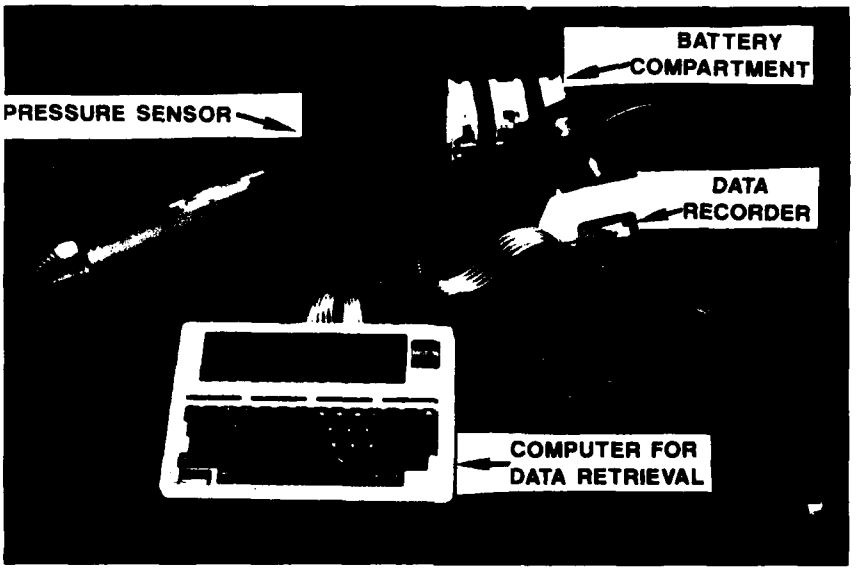



Figure 6. Water level recorder

ENDECO recorders contained a strain gage type pressure transducer in a submersible case that is used to record the absolute pressure of the column of water above the case. This pressure transducer was vented to the atmosphere by a small tube in the signal cable that compensated for any changes in barometric pressure. The Model 1152 was similarly equipped, but in addition it has a conductivity sensor for monitoring salinity. The recording time intervals for the tide level data were set for 10-15 min. The data from each recorder were stored on a solid-state EPROM cartridge in the waterproof housing above the surface, which also contained the d-c power supply. The accuracy of these recorders is 0.1 percent (or ±0.05 ft over the full scale of the recorder). The pressure was measured for 49 sec of each minute of the recording interval with a frequency of 5-55 kHz to filter out surface waves, therefore eliminating the need for a stilling well.

10. Six recorders were used for this study to obtain water-surface elevation measurements at different locations in the study area. These locations are shown in Figure 5. One recorder, TG-4, was located on a channel marker in the Intracoastal Waterway at the northeast end of Lake Borgne. Recorder TG-7 was located on a navigational structure in Chandeleur Sound near Point Chicot. These two locations were identical to those used in another

study; therefore, the previous station numbering system was used. Recorders TG-10 and TG-12 were located on channel markers in the MRGO near the Martello Castle and Shell Beach entrances into Lake Borgne. Recorders TG-11 and TG-13 were located on abandoned piling structures within Lake Borgne close to these same entrances. The recorders were operated continuously throughout the entire study period.

Wind speed and direction

11. The wind conditions at the time of each 8-hr survey were recorded using a WeatherMaster Model No. 132 hand-held anemometer. The directions of the prevailing winds were determined from the compass heading of the anemometer giving the highest speed indication. Periodic maximum wind speeds were recorded at various times throughout each of the surveys. No wind conditions were monitored during the intervals between the individual surveys. Wind data at New Orleans for all periods were obtained from the National Weather Service, but are not presented here.

## Procedures

12. For each of the 8-hr data collection periods in the MRGO study area, a total of three ranges were selected that would probably yield the information most applicable to the problem statement. The general locations of these ranges are shown in Figure 7. Range 1, located within the MRGO at mile marker 27.0, had three stations across the channel. Sta 1-B was located at the channel center line and sta 1-A and 1-C were located at the channel prism lines. A fourth station, sta 1-X, located 1.5 miles below range 1, was monitored only during the scheduled times of the LANDSAT satellite overflights. Range 2, located at MRGO mile marker 41.0 and at the Shell Beach entrance to Lake Borgne, had three stations that were monitored. Sta 2-B and 2-C were located within the MRGO channel, at the channel center line and prism line, respectively, at MRGO mile marker 41.0. Sta 2-A of this range was located approximately 150 ft inside the entrance of the Shell Beach access channel to Lake Borgne. A fourth station, 2-X, located at channel marker 2 in Lake Borgne, was monitored only during the scheduled period of satellite overflights. Range 3, located near MRGO mile marker 51.0, had four stations which were monitored. Sta 3-C and 3-D were located in the MRGO at the channel center line and prism line, respectively. Sta 3-A and 3-B were located across

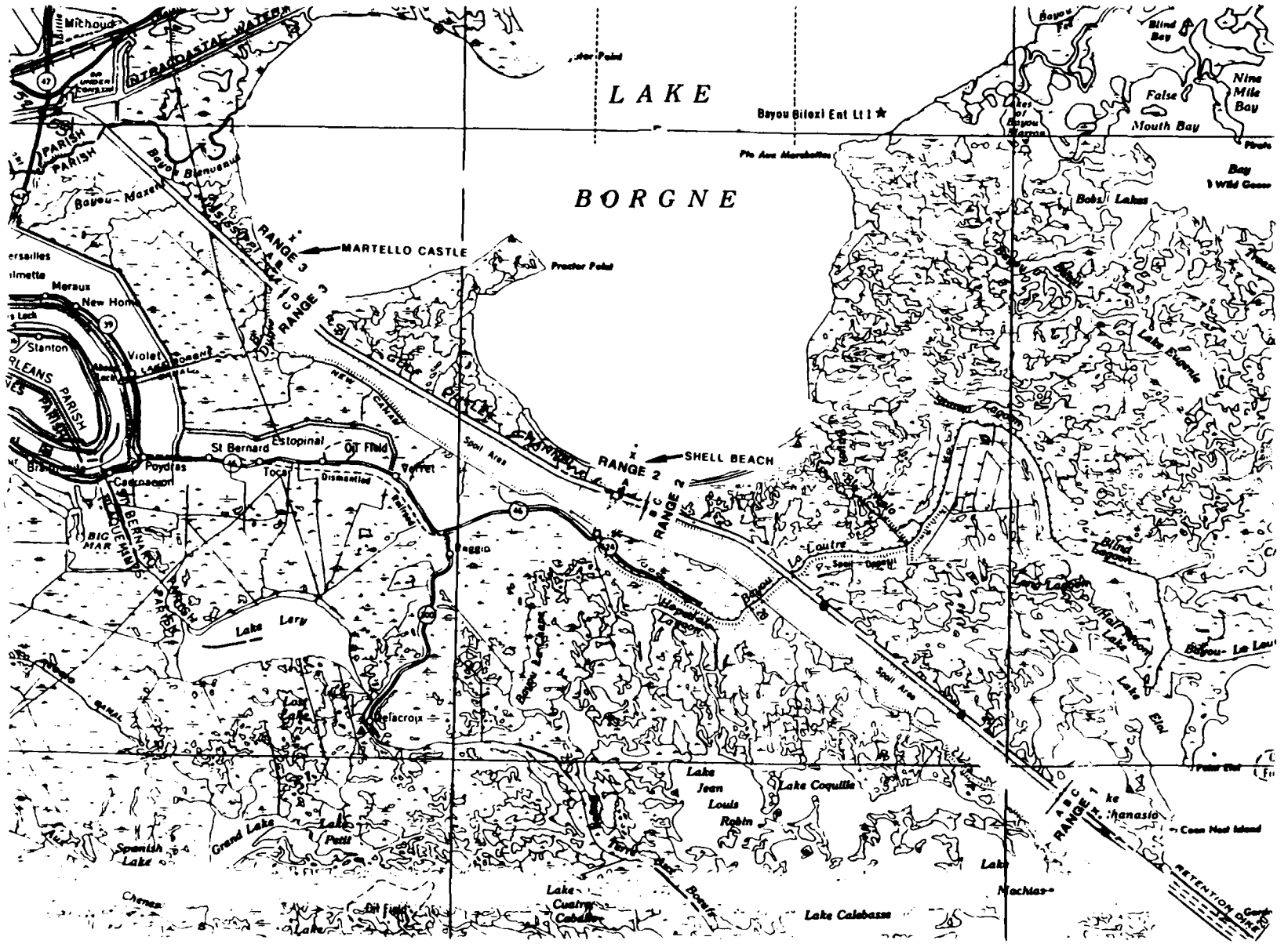



Figure 7. Survey data collection ranges and stations

the entrance from MRGO into Lake Borgne at the Martello Castle area and equally spaced across the width of the channel. A fifth station, 3-X, located at channel marker 2 in Lake Borgne, was monitored only during the scheduled periods of satellite overflights.

13. Before the beginning of each survey, anchors and mooring lines were deployed at each of the stations. The mooring lines were attached to large inflated buoys. The boat moved into position at each of the buoys and used the anchored line to hold a steady position in the current while data collection was being performed. With the exception of the X stations, the velocity data and water samples were collected at three depths: bottom, middepth, and surface. The bottom measurement was made at a distance of 2 ft above the actual bottom. The middepth measurement was obtained at the actual middepth point. The surface measurement was obtained at 3 ft below the top of the water surface. At sta 1-X, 2-X, and 3-X, only bottom and surface measurements were obtained. Data collected at each depth included current speed, current direction, and a pumped water sample. The data at each station were obtained once per hour except during the scheduled period of satellite overflights. During the overflight periods, data were collected at each station, including the X stations, on 1/2-hr intervals beginning 1/2 hr prior to and extending to 1/2 hr following the scheduled passing of the satellite.

### Laboratory analysis of suspended sediments and salinities

14. The samples collected by the automatic water samplers and those obtained at the individual sampling stations during the survey were analyzed in the Hydraulics Laboratory at the US Army Engineer Waterways Experiment Station. Total suspended materials were determined by filtration of the samples. Nuclepore polycarbonate filters with 0.4-$\mu$ pore size were used. They were desiccated and preweighed, then a vacuum system was used to draw the sample through the filter. After the filters and holders were washed with distilled water, the filters were dried at 105° C for 1 hr and reweighed. The total suspended materials were calculated based on the weight of the filter and volume of the filtered sample.

15. The water samples were also measured for salinities in the laboratory. A Beckman Model RA5 salinometer with automatic temperature compensation was used for these analyses. The salinometer was calibrated with standard seawater (34 ppt) and was accurate to within $\pm$0.2 ppt.

Conditions of the survey

16. Each 8-hr data collection survey was conducted during a slightly different tide condition. The maximum tidal ranges were observed to be 2.45 ft in the upper reaches of Lake Borgne and 2.5 ft near Point Chicot. The cloud conditions were variable during each survey. The survey conducted on 26 October 1988 appeared to be excellent for the satellite overflights (no large cloud formations). Extreme cloud cover existed at the time of the 11 and 27 November 1988 data collection surveys. The wind conditions were variable for each survey ranging from slight breezes to strong winds of 17 mph.

## PART III: DATA PRESENTATION

### Tide Data

17. The variations observed in the water-surface elevation data are tabulated in Tables 1-9. The water-surface data for periods of 12 hr prior to and following each of the survey period dates are shown in Plates 1-9. Water level recorders TG-4, TG-7, TG-10, TG-11, TG-12, and TG-13 appeared to function properly during each of the surveys. However, some difficulties were encountered at location TG-10 during the interval between the first and second surveys. This problem was corrected prior to the second survey conducted on 11 November. The tide phase and ranges observed on all the recorders appeared to be consistent with each other.

18. The data from water level recorders TG-10 and TG-11 were compared to determine the presence of a head differential at the Martello Castle opening from Lake Borgne to the MRGO. The information obtained from these recorders is listed in Tables 4-6. The data from the additional water level recorders TG-12 and TG-13 were also compared in a similar manner to determine the head differential occurring at the Shell Beach opening from Lake Borgne to the MRGO and are listed in Tables 7-9. To determine the head differential that existed at each location, a representative datum had to be determined. It was assumed that the relative proximity of the pairs of recorders to each other was close enough that the time of occurrence of the slack water at each location would be the same. From the water level data recorded at each of these locations and the velocity data, the offset of one of the gages could be adjusted up or down depending on the change in direction indicated by the velocity data. The mean water level reading from each recorder was used as the datum for plotting the data. The maximum water-surface differential observed at TG-10 and TG-11, the Martello Castle opening, was 0.154 ft and occurred on 11 November. The maximum water-surface differential observed at TG-12 and TG-13, the Shell Beach opening, was 0.93 ft occurring on 27 November. It should be noted here that the extreme water-surface differential that occurred at the Shell Beach location was caused by the effects of a very strong cold front advancing in a southward direction. Associated with this advancing front were very strong winds, which created very high waves in the southern end of Lake Borgne, particularly at the Shell Beach area. The

plots of the water surface at the Martello Castle and Shell Beach openings are shown in Plates 4-9. The period of time plotted for each water level recorder represents the length of time required to complete each survey and includes a 12-hr period immediately preceding and following the survey. In every case, the measured flow velocity through the openings into Lake Borgne was in the direction of the measured water level gradient.

19. The water level recorder at location TG-7 was used as a reference station for comparison with the data from the other stations to estimate tidal phase and range differences between location TG-4 at Point Chicot and the upper reaches of Lake Borgne. This comparison illustrated that the maximum tidal range observed was 2.5 ft at location TG-4 and 2.4 ft at location TG-7 on 11 November 1988. The comparison also reflected that the phase differences in these tide ranges differed as much as 1-1/2 hr between locations TG-7 and TG-4. The plots of these water surface elevations are shown in Plates 1-3.

## Velocity Data

20. Tables 10-42 and Plates 10-42 are the time series listings and plots, respectively, of the velocity data obtained at the three ranges as described in paragraph 12. At each station the current speed and direction were measured at three depths: near bottom, middepth, and near surface. The maximum velocity observed at the lower range, range 1, in the channel of the MRGO was 3.6 fps occurring on 26 October 1988. The maximum velocity observed in the MRGO channel at range 2 was 2.7 fps occurring on 27 November 1988. The maximum velocity in the channel at range 3 was 2.9 fps occurring on 27 November. In the Martello Castle opening into the MRGO (sta 3-A and 3-B), currents generally flowed out of Lake Borgne, indicated by the ebb direction, during this period. The maximum currents observed in the center of the opening (sta 3-B) were near 3.2 fps on 27 November. In the Shell Beach opening into the MRGO (sta 2-A), the maximum velocity was found to be 3.6 fps occurring on 27 November. The flows during this period were predominantly out of Lake Borgne into the MRGO as indicated by the ebb direction. Within the main MRGO channel between these two openings, at sta 3-C, the maximum current speed was found to be 2.9 fps during the November 27 survey. At the lower end of the MRGO, range 1, the maximum currents measured were predominantly in the channel. The maximum velocity observed was 3.6 fps at sta 1-B during the

October 26 survey. These maximum velocities were found to occur mainly in the center of the channel and near the middepth.

21. The majority of the flows within the channel of the MRGO, particularly at ranges 2 and 3, were in a southeast direction. The two major entrances into Lake Borgne (the Martello Castle and Shell Beach openings) and other openings along the MRGO contributed to the flow in the channel. As a result, there were no large variations, other than tidal, in the magnitude and direction of the currents. Eddies and unusual flow circulation patterns created by change in the tidal periods were not always observed to be present in the velocity data. These are highly dynamic processes and represent changes that are created by tidal as well as climatic factors. Several of the surveys illustrated that the changes within the system were not always detectable using hourly observation periods. However, the data set does provide sufficiently detailed information for model verification.

## Salinity Data

22. The results of the sample analysis for salinities at each sample station during each survey are listed in Tables 43-51. Plates 43-47 are the plots of the salinities for representative stations within the MRGO and at each of the openings into Lake Borgne. The salinities for the samples obtained from the automatic water samples are listed in Tables 52-56 and plotted in Plate 48. The salinity values at the sampling locations within the MRGO indicate that ranges 2 and 3 represent a partly to well-mixed flow system while range 1 is generally well mixed. At sta 2-A, 3-A, and 3-B, the changes in the observed salinity values indicated the change in direction of the measured flow through the openings. Increases in salinity values at these stations indicated flow from the MRGO into Lake Borgne. Low or decreasing values of salinity at these stations indicated flow from Lake Borgne into the MRGO.

## Total Suspended Material Data

23. The results of the sample analysis for total suspended material at each sample station monitored during each survey are shown in Tables 57-65. Plates 49-53 are plots of the suspended sediment concentrations for representative stations within the MRGO channel and at each of the openings into

Lake Borgne. The majority of the samples containing the greatest concentrations of suspended sediment were generally found near the bottom of the channel. The suspended sediment concentrations within the openings tended to be slightly different from those observed in the channel, especially when the flow within the opening was predominantly from Lake Borgne into the MRGO. If the flow was from Lake Borgne into the MRGO, then the suspended sediment concentrations were dependent upon the surface conditions within the lake. If the water surface was relatively calm, then the sediment concentrations were generally low throughout the depth profile. If the water surface was rough, with a wind that prevailed toward the southern end of the lake, the suspended sediment concentrations were noticeably greater at the various depths sampled. This condition is illustrated well in Plate 50 during the 27 November survey period.

24. The results of the analyses of total suspended materials from the automatic water samplers are listed in Tables 66-70 and are also plotted in Plate 54. The concentrations were found to vary from 300 mg/ℓ at the Martello Castle location (AWS-2) during the November 27 survey to a minimum of less than 10 mg/ℓ during the October 26 survey.

## LANDSAT Information

25. The time of the year that this study was performed was not conducive to weather patterns and conditions that create the proper atmospheric condition for accurate LANDSAT information and pictures. The advancing weather fronts and the scheduled overflights of the satellite were synchronous and produced unsuccessful overflight data collection efforts. The sample satellite image shown in Figure 8 was the least amount of cloud cover that was present during each of the survey periods. Attempts were made to establish a relationship between the satellite imagery and the analysis of the suspended sediment samples collected in the field. It was hoped that a comparison could be made of the methodology used in this study with that used in a similar study on the Yangtze River in China*. However, the correlation value could not be made from the satellite data because of the complications created by

---

* Yie Xiusheng. 1987. "The Application of Satellite Pictures in the Analysis of Estuarine Processes of the Yangtze Estuary," The Journal of Sediment Research, Vol 4, pp 93-97.

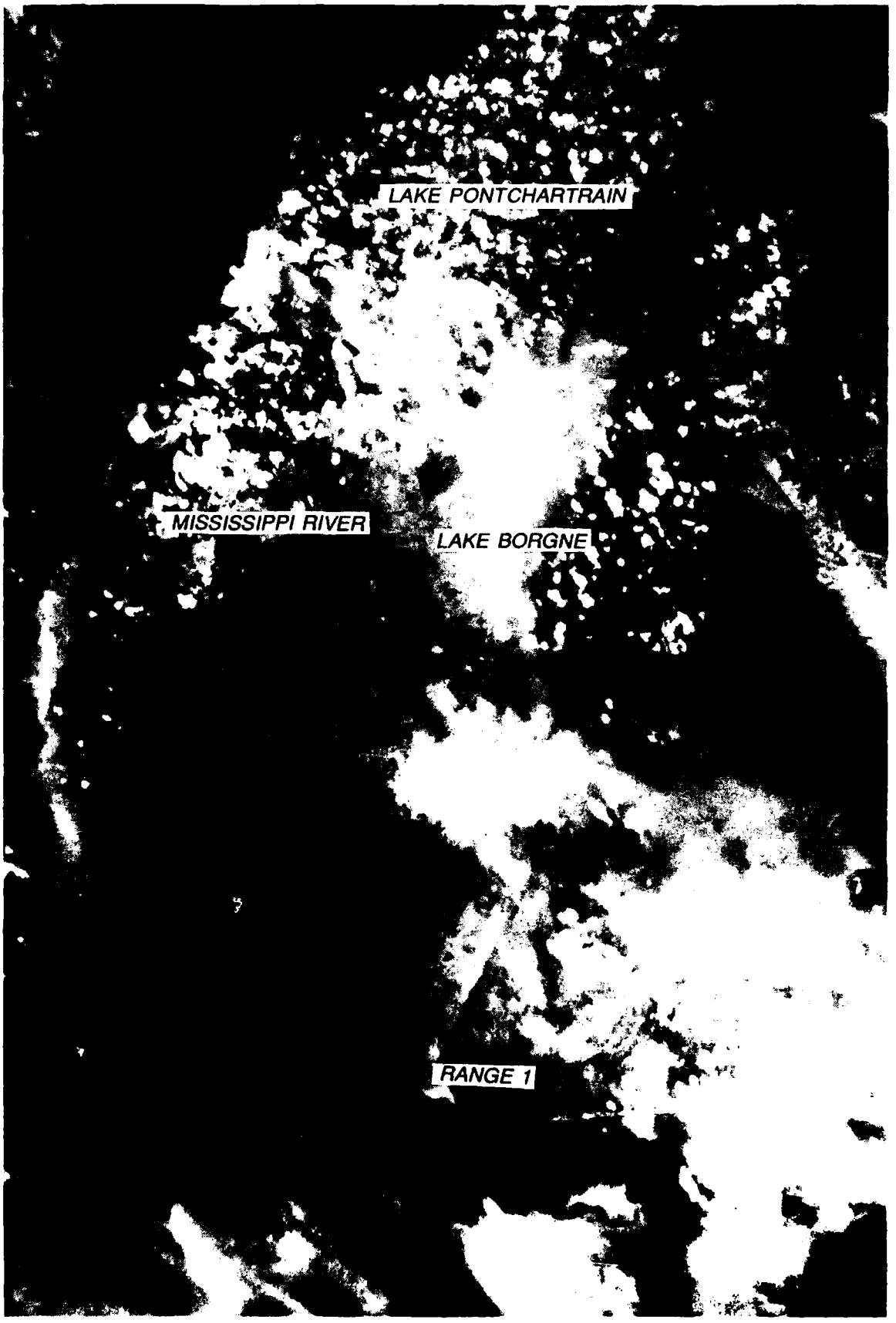



Figure 8. LANDSAT composite photograph of MRGO survey area

the clouds and interference with the analysis. As a result, no ground truth verification of the satellite image with field sample concentrations at the various locations could be attempted.

## PART IV: SUMMARY

26. The data presented herein were collected from the intensive survey and longer term sampling efforts within the MRGO study area. The following observations were made of the data:

a. There appears to be a slight decrease in the maximum range of water-surface elevation (0.12 ft) from the Chandeleur Sound location (TG-7) to the upper reaches of Lake Borgne (TG-4).

b. The maximum velocities observed during the surveys occurred at the strength of flood periods. The maximum observed velocity was 3.6 fps at sta 1-B on 26 October.

c. Suspended sediment concentrations within the MRGO channel were found to be generally greater near the bottom during the strength of flood periods. The suspended sediment concentrations within Lake Borgne were high (106 to 283 mg/ℓ) during windy periods and low (5 to 63 mg/ℓ) during calm periods.

d. Salinity values indicated that the lower portion of the MRGO could be described as being partly mixed to well mixed, while the upper portions could be described as being generally well mixed.

e. Correlation of suspended sediment data with satellite data was not successful due to cloud cover during the periods data were obtained.

Table 1

Water-Surface Elevation Fluctuations

TG-4 and TG-7, 25-26 October 1988

| Time CST | Water Surface Elevation, ft* TG-4 | TG-7 |
|---|---|---|
| | 25 October 1988 | |
| 1900 | 0.4217 | 0.6532 |
| 1910 | 0.4407 | 0.6682 |
| 1920 | 0.4657 | 0.6962 |
| 1930 | 0.4857 | 0.7012 |
| 1940 | 0.5047 | 0.7222 |
| 1950 | 0.5197 | 0.7402 |
| 2000 | 0.5557 | 0.7572 |
| 2010 | 0.5667 | 0.7922 |
| 2020 | 0.5667 | 0.7832 |
| 2030 | 0.6027 | 0.8322 |
| 2040 | 0.6207 | 0.8332 |
| 2050 | 0.6407 | 0.8312 |
| 2100 | 0.6707 | 0.8522 |
| 2110 | 0.6967 | 0.8572 |
| 2120 | 0.7187 | 0.8702 |
| 2130 | 0.7477 | 0.8632 |
| 2140 | 0.7507 | 0.8782 |
| 2150 | 0.7677 | 0.8622 |
| 2200 | 0.7747 | 0.8872 |
| 2210 | 0.7927 | 0.8712 |
| 2220 | 0.8077 | 0.8652 |
| 2230 | 0.8297 | 0.8582 |
| 2240 | 0.8327 | 0.8372 |
| 2250 | 0.8317 | 0.8372 |
| 2300 | 0.8347 | 0.8182 |
| 2310 | 0.8417 | 0.7912 |
| 2320 | 0.8277 | 0.7762 |
| 2330 | 0.8267 | 0.7562 |
| 2340 | 0.8097 | 0.7382 |
| 2350 | 0.8057 | 0.7152 |
| | 26 October 1988 | |
| 0000 | 0.7967 | 0.6952 |
| 0010 | 0.7887 | 0.6772 |
| 0020 | 0.7757 | 0.6422 |
| 0030 | 0.7477 | 0.6202 |
| 0040 | 0.7187 | 0.5642 |
| 0050 | 0.6867 | 0.5452 |
| 0100 | 0.6687 | 0.5032 |
| 0110 | 0.6357 | 0.4692 |
| 0120 | 0.6127 | 0.4352 |
| 0130 | 0.5777 | 0.3962 |
| 0140 | 0.5417 | 0.3712 |
| 0150 | 0.5167 | 0.3292 |
| 0200 | 0.4807 | 0.2572 |
| 0210 | 0.4397 | 0.2102 |
| 0220 | 0.4097 | 0.1842 |
| 0230 | 0.3667 | 0.1162 |
| 0240 | 0.3377 | 0.0742 |
| 0250 | 0.2967 | -0.0008 |
| 0300 | 0.2507 | -0.0478 |
| 0310 | 0.2127 | -0.1168 |
| 0320 | 0.1767 | -0.1528 |
| 0330 | 0.1197 | -0.2048 |
| 0340 | 0.0787 | -0.2528 |
| 0350 | 0.0347 | -0.3158 |
| 0400 | -0.0203 | -0.3698 |
| 0410 | -0.0523 | -0.4268 |
| 0420 | -0.0893 | -0.4898 |
| 0430 | -0.1443 | -0.5568 |
| 0440 | -0.1873 | -0.5978 |
| 0450 | -0.2393 | -0.6518 |
| 0500 | -0.2883 | -0.7038 |
| 0510 | -0.3563 | -0.7648 |
| 0520 | -0.3853 | -0.8198 |
| 0530 | -0.4433 | -0.8708 |
| 0540 | -0.4823 | -0.9248 |
| 0550 | -0.5313 | -0.9668 |
| 0600 | -0.5883 | -1.0368 |
| 0610 | -0.6243 | -1.0798 |
| 0620 | -0.6913 | -1.1218 |

(Continued)

* Mean water level reading used as a datum.

Table 1 (Continued)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 | Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|---|---|---|
| 26 October 1988 (Continued) | | | 26 October 1988 (Continued) | | |
| 0630 | -0.7283 | -1.1588 | 1310 | -1.1773 | -0.8388 |
| 0640 | -0.7713 | -1.1888 | 1320 | -1.1483 | -0.7848 |
| 0650 | -0.8223 | -1.2288 | 1330 | -1.1083 | -0.7458 |
| 0700 | -0.8343 | -1.2608 | 1340 | -1.0653 | -0.7098 |
| 0710 | -0.8723 | -1.2958 | 1350 | -1.0343 | -0.6638 |
| 0720 | -0.9113 | -1.3278 | 1400 | -0.9863 | -0.6308 |
| 0730 | -0.9303 | -1.3418 | 1410 | -0.9353 | -0.5898 |
| 0740 | -0.9753 | -1.3628 | 1420 | -0.8903 | -0.5518 |
| 0750 | -1.0143 | -1.3868 | 1430 | -0.8513 | -0.5078 |
| 0800 | -1.0443 | -1.3968 | 1440 | -0.8173 | -0.4698 |
| 0810 | -1.0703 | -1.4228 | 1450 | -0.7613 | -0.4408 |
| 0820 | -1.1073 | -1.4268 | 1500 | -0.7203 | -0.3908 |
| 0830 | -1.1333 | -1.4368 | 1510 | -0.6843 | -0.3308 |
| 0840 | -1.1523 | -1.4498 | 1520 | -0.6373 | -0.2868 |
| 0850 | -1.1783 | -1.4328 | 1530 | -0.5883 | -0.2538 |
| 0900 | -1.1973 | -1.4338 | 1540 | -0.5493 | -0.2188 |
| 0910 | -1.2123 | -1.4178 | 1550 | -0.5213 | -0.1878 |
| 0920 | -1.2413 | -1.4098 | 1600 | -0.4923 | -0.1498 |
| 0930 | -1.3343 | -1.4128 | 1610 | -0.4563 | -0.1438 |
| 0940 | -1.3383 | -1.3848 | 1620 | -0.4213 | -0.0988 |
| 0950 | -1.3633 | -1.3878 | 1630 | -0.3873 | -0.0848 |
| 1000 | -1.3643 | -1.3918 | 1640 | -0.3473 | -0.0398 |
| 1010 | -1.3483 | -1.3738 | 1650 | -0.3073 | -0.0178 |
| 1020 | -1.3413 | -1.3588 | 1700 | -0.2733 | 0.0072 |
| 1030 | -1.3423 | -1.3448 | 1710 | -0.2263 | 0.0542 |
| 1040 | -1.3413 | -1.3188 | 1720 | -0.1953 | 0.0502 |
| 1050 | -1.3393 | -1.2898 | 1730 | -0.1653 | 0.0852 |
| 1100 | -1.3343 | -1.2658 | 1740 | -0.1363 | 0.1272 |
| 1110 | -1.3243 | -1.2308 | 1750 | -0.1073 | 0.1672 |
| 1120 | -1.3333 | -1.2148 | 1800 | -0.0733 | 0.2072 |
| 1130 | -1.3423 | -1.1948 | 1810 | -0.0473 | 0.2602 |
| 1140 | -1.3513 | -1.1768 | 1820 | -0.0083 | 0.3032 |
| 1150 | -1.3153 | -1.1388 | 1830 | 0.0187 | 0.3692 |
| 1200 | -1.3043 | -1.1138 | 1840 | 0.0707 | 0.3782 |
| 1210 | -1.2883 | -1.0608 | 1850 | 0.1027 | 0.4302 |
| 1220 | -1.2763 | -1.0138 | 1900 | 0.1437 | 0.4602 |
| 1230 | -1.2683 | -0.9698 | 1910 | 0.1777 | 0.5052 |
| 1240 | -1.2503 | -0.9308 | 1920 | 0.2067 | 0.5192 |
| 1250 | -1.2313 | -0.8938 | 1930 | 0.2337 | 0.5602 |
| 1300 | -1.2043 | -0.8748 | 1940 | 0.2727 | 0.5952 |

(Continued)

Table 1 (Concluded)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|
| 26 October 1988 (Continued) | | |
| 1950 | 0.3007 | 0.6322 |
| 2000 | 0.3337 | 0.6752 |
| 2010 | 0.3657 | 0.7282 |
| 2020 | 0.4107 | 0.7692 |
| 2030 | 0.4597 | 0.7912 |
| 2040 | 0.5077 | 0.8192 |
| 2050 | 0.5507 | 0.8442 |
| 2100 | 0.5777 | 0.8942 |
| 2110 | 0.6197 | 0.9182 |
| 2120 | 0.6487 | 0.9552 |
| 2130 | 0.6877 | 0.9952 |
| 2140 | 0.7187 | 1.0152 |
| 2150 | 0.7457 | 1.0102 |
| 2200 | 0.7967 | 1.0222 |
| 2210 | 0.8227 | 1.0192 |
| 2220 | 0.8497 | 1.0242 |
| 2230 | 0.8747 | 1.0402 |
| 2240 | 0.9137 | 1.0362 |
| 2250 | 0.9287 | 1.0532 |
| 2300 | 0.9587 | 1.0602 |
| 2310 | 0.9577 | 1.0762 |
| 2320 | 0.9827 | 1.0792 |
| 2330 | 0.9857 | 1.0262 |
| 2340 | 1.0007 | 1.0312 |
| 2350 | 0.9977 | 0.9942 |
| 27 October 1988 | | |
| 0000 | 1.0137 | 0.9802 |
| 0010 | 1.0207 | 0.9512 |
| 0020 | 1.0197 | 0.9402 |
| 0030 | 1.0187 | 0.9082 |
| 0040 | 1.0057 | 0.8902 |
| 0050 | 0.9957 | 0.8512 |
| 0100 | 0.9637 | 0.8132 |
| 0110 | 0.9457 | 0.7862 |
| 0120 | 0.9077 | 0.7502 |
| 0130 | 0.8837 | 0.7052 |
| 0140 | 0.8547 | 0.6722 |
| 0150 | 0.8207 | 0.6302 |
| 0200 | 0.7787 | 0.5842 |
| 0210 | 0.7337 | 0.5592 |
| 0220 | 0.6847 | 0.4882 |
| 0230 | 0.6437 | 0.4352 |
| 0240 | 0.6067 | 0.3592 |
| 0250 | 0.5577 | 0.3042 |
| 0300 | 0.5097 | 0.3052 |
| 0310 | 0.4867 | 0.2262 |
| 0320 | 0.4487 | 0.2042 |
| 0330 | 0.4197 | 0.1772 |
| 0340 | 0.3847 | 0.0942 |
| 0350 | 0.3337 | 0.0742 |
| 0400 | 0.2867 | 0.0142 |
| 0410 | 0.2437 | -0.0408 |
| 0420 | 0.2127 | -0.0968 |
| 0430 | 0.1777 | -0.1468 |
| 0440 | 0.1577 | -0.1768 |
| 0450 | 0.1207 | -0.2398 |
| 0500 | 0.0877 | -0.2988 |

Table 2

Water-Surface Elevation Fluctuations

TG-4 and TG-7, 10-12 November 1988

| Time CST | Water Surface Elevation, ft* TG-4 | TG-7 |
|---|---|---|
| | 10 November 1988 | |
| 1900 | -0.1308 | 0.1030 |
| 1910 | -0.0988 | 0.1440 |
| 1920 | -0.0668 | 0.1720 |
| 1930 | -0.0398 | 0.2260 |
| 1940 | 0.0002 | 0.2520 |
| 1950 | 0.0352 | 0.2920 |
| 2000 | 0.0762 | 0.3010 |
| 2010 | 0.1042 | 0.3450 |
| 2020 | 0.1372 | 0.3650 |
| 2030 | 0.1682 | 0.4040 |
| 2040 | 0.2092 | 0.4250 |
| 2050 | 0.2382 | 0.4360 |
| 2100 | 0.2882 | 0.4580 |
| 2110 | 0.3122 | 0.4830 |
| 2120 | 0.3322 | 0.4870 |
| 2130 | 0.3642 | 0.4990 |
| 2140 | 0.3872 | 0.5060 |
| 2150 | 0.4162 | 0.5020 |
| 2200 | 0.4462 | 0.5520 |
| 2210 | 0.4722 | 0.5260 |
| 2220 | 0.4962 | 0.5420 |
| 2230 | 0.5272 | 0.5510 |
| 2240 | 0.5472 | 0.5540 |
| 2250 | 0.5562 | 0.5370 |
| 2300 | 0.5822 | 0.5480 |
| 2310 | 0.5832 | 0.5220 |
| 2320 | 0.5842 | 0.4980 |
| 2330 | 0.5782 | 0.4920 |
| 2340 | 0.5822 | 0.4700 |
| 2350 | 0.5812 | 0.4360 |
| | 11 November 1988 | |
| 0000 | 0.5642 | 0.4040 |
| 0010 | 0.5412 | 0.3960 |
| 0020 | 0.5392 | 0.3970 |
| 0030 | 0.5232 | 0.3660 |
| 0040 | 0.4882 | 0.3660 |
| 0050 | 0.4822 | 0.3260 |
| 0100 | 0.4682 | 0.2980 |
| 0110 | 0.4602 | 0.2980 |
| 0120 | 0.4272 | 0.2400 |
| 0130 | 0.3702 | 0.2010 |
| 0140 | 0.3642 | 0.1690 |
| 0150 | 0.3282 | 0.1060 |
| 0200 | 0.2682 | 0.1290 |
| 0210 | 0.2272 | 0.0720 |
| 0220 | 0.1832 | 0.0450 |
| 0230 | 0.1642 | 0.0180 |
| 0240 | 0.1232 | 0.0010 |
| 0250 | 0.1032 | -0.0250 |
| 0300 | 0.0762 | -0.0930 |
| 0310 | 0.0512 | -0.1760 |
| 0320 | 0.0102 | -0.2250 |
| 0330 | -0.0198 | -0.3030 |
| 0340 | -0.0518 | -0.3330 |
| 0350 | -0.0948 | -0.3730 |
| 0400 | -0.1118 | -0.4030 |
| 0410 | -0.1358 | -0.4620 |
| 0420 | -0.1768 | -0.5000 |
| 0430 | -0.2378 | -0.5360 |
| 0440 | -0.2758 | -0.5790 |
| 0450 | -0.2928 | -0.6450 |
| 0500 | -0.3328 | -0.6880 |
| 0510 | -0.3738 | -0.7360 |
| 0520 | -0.4318 | -0.7870 |
| 0530 | -0.4518 | -0.8110 |
| 0540 | -0.4728 | -0.8600 |
| 0550 | -0.5298 | -0.8880 |
| 0600 | -0.5818 | -0.9160 |
| 0610 | -0.6278 | -0.9750 |
| 0620 | -0.6718 | -1.0090 |

(Continued)

* Mean water level reading used as datum.

Table 2 (Continued)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 | Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|---|---|---|
| 11 November 1988 (Continued) | | | 11 November 1988 (Continued) | | |
| 0630 | -0.7098 | -1.0240 | 1310 | -0.9568 | -0.7740 |
| 0640 | -0.7298 | -1.0540 | 1320 | -0.9028 | -0.7330 |
| 0650 | -0.7588 | -1.0600 | 1330 | -0.8808 | -0.6840 |
| 0700 | -0.8048 | -1.0880 | 1340 | -0.8488 | -0.6740 |
| 0710 | -0.8538 | -1.1220 | 1350 | -0.8208 | -0.6190 |
| 0720 | -0.8968 | -1.1430 | 1400 | -0.7838 | -0.5780 |
| 0730 | -0.9238 | -1.1660 | 1410 | -0.7678 | -0.5360 |
| 0740 | -0.9558 | -1.1710 | 1420 | -0.7408 | -0.5150 |
| 0750 | -0.9948 | -1.1870 | 1430 | -0.6978 | -0.4910 |
| 0800 | -1.0128 | -1.2230 | 1440 | -0.6628 | -0.4420 |
| 0810 | -1.0328 | -1.2340 | 1450 | -0.6148 | -0.3990 |
| 0820 | -1.0158 | -1.2090 | 1500 | -0.5798 | -0.3570 |
| 0830 | -1.0448 | -1.2280 | 1510 | -0.5468 | -0.3230 |
| 0840 | -1.0498 | -1.2320 | 1520 | -0.5038 | -0.2860 |
| 0850 | -1.0988 | -1.2210 | 1530 | -0.4858 | -0.2540 |
| 0900 | -1.1198 | -1.2510 | 1540 | -0.4618 | -0.2080 |
| 0910 | -1.1108 | -1.2320 | 1550 | -0.4458 | -0.1800 |
| 0920 | -1.1418 | -1.2410 | 1600 | -0.4178 | -0.1400 |
| 0930 | -1.1648 | -1.2810 | 1610 | -0.3898 | -0.0970 |
| 0940 | -1.1568 | -1.2440 | 1620 | -0.3638 | -0.0720 |
| 0950 | -1.1668 | -1.2540 | 1630 | -0.3288 | -0.0240 |
| 1000 | -1.1858 | -1.2170 | 1640 | -0.2968 | 0.0080 |
| 1010 | -1.2018 | -1.2150 | 1650 | -0.2658 | 0.0330 |
| 1020 | -1.1778 | -1.2000 | 1700 | -0.2358 | 0.0730 |
| 1030 | -1.1738 | -1.1500 | 1710 | -0.2108 | 0.0990 |
| 1040 | -1.1718 | -1.1370 | 1720 | -0.1768 | 0.1260 |
| 1050 | -1.1788 | -1.0950 | 1730 | -0.1438 | 0.1670 |
| 1100 | -1.1998 | -1.0990 | 1740 | -0.1148 | 0.1960 |
| 1110 | -1.1878 | -1.1140 | 1750 | -0.0878 | 0.2190 |
| 1120 | -1.1828 | -1.1000 | 1800 | -0.0498 | 0.2470 |
| 1130 | -1.1828 | -1.0880 | 1810 | -0.0238 | 0.2850 |
| 1140 | -1.1588 | -1.0520 | 1820 | 0.0122 | 0.3100 |
| 1150 | -1.1378 | -1.0340 | 1830 | 0.0372 | 0.3490 |
| 1200 | -1.1018 | -0.9980 | 1840 | 0.0592 | 0.3740 |
| 1210 | -1.0948 | -0.9700 | 1850 | 0.0812 | 0.3980 |
| 1220 | -1.0918 | -0.9390 | 1900 | 0.1182 | 0.4460 |
| 1230 | -1.0728 | -0.9180 | 1910 | 0.1332 | 0.4790 |
| 1240 | -1.0488 | -0.8660 | 1920 | 0.1702 | 0.5130 |
| 1250 | -1.0278 | -0.8560 | 1930 | 0.1912 | 0.5350 |
| 1300 | -0.9838 | -0.7970 | 1940 | 0.2352 | 0.5710 |

(Continued)

Table 2 (Concluded)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|
| 11 November 1988 (Continued) | | |
| 1950 | 0.2472 | 0.6010 |
| 2000 | 0.2742 | 0.6270 |
| 2010 | 0.3052 | 0.6670 |
| 2020 | 0.3412 | 0.6840 |
| 2030 | 0.3872 | 0.7140 |
| 2040 | 0.4392 | 0.7520 |
| 2050 | 0.5092 | 0.7670 |
| 2100 | 0.5442 | 0.8040 |
| 2110 | 0.5822 | 0.8360 |
| 2120 | 0.6102 | 0.8860 |
| 2130 | 0.6312 | 0.9190 |
| 2140 | 0.6642 | 0.9410 |
| 2150 | 0.6982 | 0.9670 |
| 2200 | 0.7222 | 1.0130 |
| 2210 | 0.7512 | 1.0280 |
| 2220 | 0.7822 | 1.0390 |
| 2230 | 0.8312 | 1.0600 |
| 2240 | 0.8442 | 1.0730 |
| 2250 | 0.8672 | 1.0760 |
| 2300 | 0.8952 | 1.0750 |
| 2310 | 0.9172 | 1.0810 |
| 2320 | 0.9462 | 1.0900 |
| 2330 | 0.9652 | 1.0980 |
| 2340 | 0.9812 | 1.1110 |
| 2350 | 1.0002 | 1.0970 |
| 12 November 1988 | | |
| 0000 | 1.0232 | 1.0710 |
| 0010 | 1.0342 | 1.0530 |
| 0020 | 1.0512 | 1.0380 |
| 0030 | 1.0592 | 1.0350 |
| 0040 | 1.0722 | 1.0230 |
| 0050 | 1.0672 | 1.0090 |
| 0100 | 1.0702 | 1.0090 |
| 0110 | 1.0702 | 0.9840 |
| 0120 | 1.0732 | 0.9580 |
| 0130 | 1.0872 | 0.9210 |
| 0140 | 1.0752 | 0.9070 |
| 0150 | 1.0622 | 0.8800 |
| 0200 | 1.0632 | 0.8380 |
| 0210 | 1.0552 | 0.8050 |
| 0220 | 1.0382 | 0.7820 |
| 0230 | 1.0372 | 0.7350 |
| 0240 | 1.0152 | 0.6710 |
| 0250 | 0.9952 | 0.6280 |
| 0300 | 0.9842 | 0.5880 |
| 0310 | 0.9522 | 0.5470 |
| 0320 | 0.9222 | 0.5200 |
| 0330 | 0.8852 | 0.4590 |
| 0340 | 0.8672 | 0.4060 |
| 0350 | 0.8442 | 0.3750 |
| 0400 | 0.8112 | 0.3280 |
| 0410 | 0.7722 | 0.2950 |
| 0420 | 0.7402 | 0.2390 |
| 0430 | 0.6972 | 0.1910 |
| 0440 | 0.6492 | 0.1350 |
| 0450 | 0.5812 | 0.0840 |
| 0500 | 0.5262 | 0.0120 |

Table 3

Water-Surface Elevation Fluctuations

TG-4 and TG-7, 26-28 November 1988

| Time CST | Water Surface Elevation, ft* TG-4 | TG-7 |
|---|---|---|
| | 26 November 1988 | |
| 1900 | 0.0821 | 0.1091 |
| 1910 | 0.1041 | 0.1381 |
| 1920 | 0.1291 | 0.1751 |
| 1930 | 0.1601 | 0.1891 |
| 1940 | 0.1821 | 0.2111 |
| 1950 | 0.2041 | 0.2491 |
| 2000 | 0.2571 | 0.3151 |
| 2010 | 0.2881 | 0.3441 |
| 2020 | 0.3061 | 0.3861 |
| 2030 | 0.3381 | 0.4351 |
| 2040 | 0.3641 | 0.4541 |
| 2050 | 0.4131 | 0.5051 |
| 2100 | 0.4451 | 0.5261 |
| 2110 | 0.4771 | 0.5501 |
| 2120 | 0.5311 | 0.6111 |
| 2130 | 0.5691 | 0.6291 |
| 2140 | 0.6051 | 0.6761 |
| 2150 | 0.6431 | 0.7041 |
| 2200 | 0.6781 | 0.7621 |
| 2210 | 0.7401 | 0.7851 |
| 2220 | 0.7791 | 0.8581 |
| 2230 | 0.8341 | 0.8791 |
| 2240 | 0.8581 | 0.9201 |
| 2250 | 0.9051 | 0.9531 |
| 2300 | 0.9411 | 0.9661 |
| 2310 | 0.9901 | 0.9941 |
| 2320 | 0.9811 | 0.9901 |
| 2330 | 1.0651 | 1.0431 |
| 2340 | 1.1041 | 1.0041 |
| 2350 | 1.1261 | 1.0391 |
| | 27 November 1988 | |
| 0000 | 1.1351 | 1.0351 |
| 0010 | 1.1481 | 1.0401 |
| 0020 | 1.1661 | 1.0441 |
| 0030 | 1.1681 | 1.0251 |
| 0040 | 1.1851 | 1.0011 |
| 0050 | 1.1991 | 0.9741 |
| 0100 | 1.2041 | 0.9741 |
| 0110 | 1.2041 | 0.9691 |
| 0120 | 1.1951 | 0.9551 |
| 0130 | 1.1961 | 0.9341 |
| 0140 | 1.2001 | 0.9271 |
| 0150 | 1.1921 | 0.8731 |
| 0200 | 1.1801 | 0.8671 |
| 0210 | 1.1711 | 0.8521 |
| 0220 | 1.1591 | 0.7971 |
| 0230 | 1.1401 | 0.8041 |
| 0240 | 1.1311 | 0.7531 |
| 0250 | 1.0961 | 0.7241 |
| 0300 | 1.0651 | 0.7111 |
| 0310 | 1.0151 | 0.6761 |
| 0320 | 1.0071 | 0.6031 |
| 0330 | 0.9901 | 0.5541 |
| 0340 | 0.9531 | 0.5291 |
| 0350 | 0.9101 | 0.4821 |
| 0400 | 0.8771 | 0.4711 |
| 0410 | 0.8441 | 0.4111 |
| 0420 | 0.7991 | 0.3981 |
| 0430 | 0.7701 | 0.3251 |
| 0440 | 0.7361 | 0.2691 |
| 0450 | 0.6811 | 0.2491 |
| 0500 | 0.6441 | 0.1981 |
| 0510 | 0.6001 | 0.1761 |
| 0520 | 0.5461 | 0.1141 |
| 0530 | 0.4941 | 0.0481 |
| 0540 | 0.4551 | -0.0029 |
| 0550 | 0.4061 | -0.0389 |
| 0600 | 0.3401 | -0.1049 |
| 0610 | 0.3261 | -0.1559 |
| 0620 | 0.2691 | -0.1959 |

(Continued)

* Mean water level reading used as a datum.

Table 3 (Continued)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|
| 27 November 1988 (Continued) | | |
| 0630 | 0.2121 | -0.2719 |
| 0640 | 0.1561 | -0.3169 |
| 0650 | 0.1301 | -0.3609 |
| 0700 | 0.0821 | -0.4169 |
| 0710 | 0.0321 | -0.4529 |
| 0720 | -0.0099 | -0.5069 |
| 0730 | -0.0439 | -0.5529 |
| 0740 | -0.0959 | -0.6049 |
| 0750 | -0.1299 | -0.6599 |
| 0800 | -0 1709 | -0.7079 |
| 0810 | -0.2159 | -0.7489 |
| 0820 | -0.2569 | -0.7639 |
| 0830 | -0.3019 | -0.7929 |
| 0840 | -0.3509 | -0.8389 |
| 0850 | -0.3839 | -0.8789 |
| 0900 | -0.4249 | -0.9029 |
| 0910 | -0.4669 | -0.9149 |
| 0920 | -0.4899 | -0.9329 |
| 0930 | -0.5279 | -0.9599 |
| 0940 | -0.5669 | -0.9669 |
| 0950 | -0.5959 | -0.9909 |
| 1000 | -0.6039 | -0.9839 |
| 1010 | -0.6779 | -1.0079 |
| 1020 | -0.6829 | -1.0169 |
| 1030 | -0.7329 | -1.0439 |
| 1040 | -0.8209 | -1.0369 |
| 1050 | -0.8789 | -1.0559 |
| 1100 | -0.8919 | -1.0199 |
| 1110 | -0.8829 | -1.0159 |
| 1120 | -0.8849 | -1.0159 |
| 1130 | -0.8009 | -0.9719 |
| 1140 | -0.8629 | -0.9979 |
| 1150 | -0.9079 | -0.8759 |
| 1200 | -1.0529 | -0.8999 |
| 1210 | -1.0989 | -0.8929 |
| 1220 | -1.1089 | -0.9039 |
| 1230 | -1.0819 | -0.8899 |
| 1240 | -1.0889 | -0.8879 |
| 1250 | -1.0409 | -0.8889 |

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|
| 27 November 1988 (Continued) | | |
| 1300 | -0.9999 | -0.8669 |
| 1310 | -0.9919 | -0.8499 |
| 1320 | -0.9769 | -0.8639 |
| 1330 | -0.9929 | -0.9059 |
| 1340 | -0.9739 | -0.8969 |
| 1350 | -0.9839 | -0.8309 |
| 1400 | -0.9879 | -0.8119 |
| 1410 | -0.9879 | -0.7849 |
| 1420 | -0.9949 | -0.7709 |
| 1430 | -1.0109 | -0.7499 |
| 1440 | -1.0019 | -0.7519 |
| 1450 | -0.9999 | -0.721 |
| 1500 | -1.0029 | -0.6869 |
| 1510 | -1.0039 | -0.6909 |
| 1520 | -0.9879 | -0.6829 |
| 1530 | -0.9749 | -0.6449 |
| 1540 | -0.9309 | -0.6659 |
| 1550 | -0.9069 | -0.6379 |
| 1600 | -0.8699 | -0.6319 |
| 1610 | -0.8389 | -0.6109 |
| 1620 | -0.8189 | -0.6009 |
| 1630 | -0.7929 | -0.5709 |
| 1640 | -0.8019 | -0.5559 |
| 1650 | -0.7769 | -0.5479 |
| 1700 | -0.7679 | -0.5539 |
| 1710 | -0.7679 | -0.5199 |
| 1720 | -0.7339 | -0.5249 |
| 1730 | -0.6999 | -0.4629 |
| 1740 | -0.6629 | -0.4449 |
| 1750 | -0.6439 | -0.3959 |
| 1800 | -0.6109 | -0.3469 |
| 1810 | -0.5869 | -0.2789 |
| 1820 | -0.5739 | -0.2329 |
| 1830 | -0.5879 | -0.2629 |
| 1840 | -0.5539 | -0.1879 |
| 1850 | -0.5319 | -0.2209 |
| 1900 | -0.5079 | -0.1779 |
| 1910 | -0.5009 | -0.1569 |
| 1920 | -0.4909 | -0.1709 |

(Continued)

Table 3 (Concluded)

| Time CST | Water Surface Elevation, ft TG-4 | TG-7 |
|---|---|---|
| 27 November 1988 (Continued) | | |
| 1930 | -0.4559 | -0.1239 |
| 1940 | -0.3959 | -0.0379 |
| 1950 | -0.3539 | 0.0051 |
| 2000 | -0.3599 | 0.0641 |
| 2010 | -0.3579 | 0.0611 |
| 2020 | -0.3469 | 0.1161 |
| 2030 | -0.3509 | 0.1351 |
| 2040 | -0.3199 | 0.2401 |
| 2050 | -0.2749 | 0.2481 |
| 2100 | -0.2229 | 0.3061 |
| 2110 | -0.1679 | 0.3521 |
| 2120 | -0.1489 | 0.3821 |
| 2130 | -0.1269 | 0.3991 |
| 2140 | -0.1039 | 0.4321 |
| 2150 | -0.0589 | 0.3931 |
| 2200 | -0.0319 | 0.4131 |
| 2210 | 0.0011 | 0.4531 |
| 2220 | 0.0191 | 0.5141 |
| 2230 | 0.0601 | 0.5391 |
| 2240 | 0.0871 | 0.5801 |
| 2250 | 0.1191 | 0.5761 |
| 2300 | 0.1441 | 0.6031 |
| 2310 | 0.1571 | 0.5411 |
| 2320 | 0.1821 | 0.6061 |
| 2330 | 0.1871 | 0.5811 |
| 2340 | 0.2101 | 0.5831 |
| 2350 | 0.2211 | 0.5991 |
| 28 November 1988 | | |
| 0000 | 0.2391 | 0.5851 |
| 28 November 1988 (Continued) | | |
| 0010 | 0.2491 | 0.5201 |
| 0020 | 0.2621 | 0.4931 |
| 0030 | 0.2871 | 0.4761 |
| 0040 | 0.2891 | 0.4831 |
| 0050 | 0.2881 | 0.4071 |
| 0100 | 0.2751 | 0.3801 |
| 0110 | 0.2831 | 0.3281 |
| 0120 | 0.2671 | 0.3141 |
| 0130 | 0.2571 | 0.3171 |
| 0140 | 0.2501 | 0.3101 |
| 0150 | 0.2351 | 0.2981 |
| 0200 | 0.2351 | 0.2821 |
| 0210 | 0.2201 | 0.2651 |
| 0220 | 0.1971 | 0.2311 |
| 0230 | 0.1521 | 0.1911 |
| 0240 | 0.1061 | 0.1551 |
| 0250 | 0.0601 | 0.1161 |
| 0300 | 0.0251 | 0.0521 |
| 0310 | 0.0201 | 0.0241 |
| 0320 | -0.0119 | 0.0091 |
| 0330 | -0.0549 | -0.0349 |
| 0340 | -0.0929 | -0.0799 |
| 0350 | -0.1389 | -0.1399 |
| 0400 | -0.1719 | -0.1759 |
| 0410 | -0.1979 | -0.2189 |
| 0420 | -0.2129 | -0.2639 |
| 0430 | -0.2319 | -0.3019 |
| 0440 | -0.2779 | -0.3229 |
| 0450 | -0.3149 | -0.3429 |
| 0500 | -0.3459 | -0.3639 |

Table 4

Water-Surface Elevation Fluctuations

TG-10 and TG-11, 25-27 November 1988

| Time CST | Water Surface Elevation, ft* TG-10 | TG-11 |
|---|---|---|
| | 25 November 1988 | |
| 1900 | 0.1627 | 0.1920 |
| 1915 | 0.1877 | 0.1950 |
| 1930 | 0.1947 | 0.2140 |
| 1945 | 0.2197 | 0.2300 |
| 2000 | 0.2287 | 0.2390 |
| 2015 | 0.2437 | 0.2510 |
| 2030 | 0.2467 | 0.2660 |
| 2045 | 0.2587 | 0.2680 |
| 2100 | 0.2837 | 0.2870 |
| 2115 | 0.2987 | 0.3020 |
| 2130 | 0.3037 | 0.3230 |
| 2145 | 0.3237 | 0.3330 |
| 2200 | 0.3497 | 0.3540 |
| 2215 | 0.3757 | 0.3760 |
| 2230 | 0.3727 | 0.4010 |
| 2245 | 0.3537 | 0.4270 |
| 2300 | 0.4197 | 0.4540 |
| 2315 | 0.4397 | 0.4700 |
| 2330 | 0.4707 | 0.4810 |
| 2345 | 0.4867 | 0.5040 |
| | 26 November 1988 | |
| 0000 | 0.5167 | 0.5330 |
| 0015 | 0.5477 | 0.5560 |
| 0030 | 0.5817 | 0.5860 |
| 0045 | 0.5967 | 0.6120 |
| 0100 | 0.6047 | 0.6080 |
| 0115 | 0.6187 | 0.6240 |
| 0130 | 0.6317 | 0.6340 |
| 0145 | 0.6397 | 0.6310 |
| 0200 | 0.6427 | 0.6310 |
| 0215 | 0.6317 | 0.6360 |
| 0230 | 0.6227 | 0.6240 |
| 0245 | 0.6347 | 0.5860 |
| 0300 | 0.6157 | 0.5590 |
| 0315 | 0.5947 | 0.5300 |
| 0330 | 0.6247 | 0.4920 |
| 0345 | 0.5407 | 0.4650 |
| 0400 | 0.4347 | 0.5060 |
| 0415 | 0.4447 | 0.4310 |
| 0430 | 0.3567 | 0.3250 |
| 0445 | 0.3477 | 0.2820 |
| 0500 | 0.2847 | 0.2440 |
| 0515 | 0.2157 | 0.1640 |
| 0530 | 0.1947 | 0.1390 |
| 0545 | 0.0737 | 0.0210 |
| 0600 | 0.0177 | -0.0150 |
| 0615 | -0.0523 | -0.0720 |
| 0630 | -0.0873 | -0.1000 |
| 0645 | -0.1343 | -0.2110 |
| 0700 | -0.2103 | -0.2480 |
| 0715 | -0.2753 | -0.2620 |
| 0730 | -0.3513 | -0.3510 |
| 0745 | -0.3943 | -0.3850 |
| 0800 | -0.4383 | -0.4590 |
| 0815 | -0.4863 | -0.5080 |
| 0830 | -0.5433 | -0.5550 |
| 0845 | -0.5753 | -0.6020 |
| 0900 | -0.6253 | -0.6450 |
| 0915 | -0.6723 | -0.6640 |
| 0930 | -0.7043 | -0.7190 |
| 0945 | -0.7533 | -0.7430 |
| 1000 | -0.7993 | -0.7790 |
| 1015 | -0.8353 | -0.8180 |
| 1030 | -0.8713 | -0.8560 |
| 1045 | -0.9093 | -0.8940 |
| 1100 | -0.9363 | -0.9220 |
| 1115 | -0.9633 | -0.9620 |
| 1130 | -0.9953 | -0.9880 |
| 1145 | -1.0283 | -1.0120 |
| 1200 | -1.0343 | -1.0360 |

(Continued)

* Mean water level reading used as a datum.

Table 4 (Concluded)

| Time CST | Water Surface Elevation, ft TG-10 | TG-11 |
|---|---|---|
| 26 November 1988 (Continued) | | |
| 1215 | -1.0603 | -1.0510 |
| 1230 | -1.0543 | -1.0560 |
| 1245 | -1.0553 | -1.0370 |
| 1300 | -1.0623 | -1.0590 |
| 1315 | -1.0643 | -1.0540 |
| 1330 | -1.0513 | -1.0510 |
| 1345 | -1.0383 | -1.0260 |
| 1400 | -1.0353 | -1.0180 |
| 1415 | -1.0173 | -1.0050 |
| 1430 | -1.0013 | -1.0170 |
| 1445 | -1.0283 | -1.0170 |
| 1500 | -0.9833 | -1.0090 |
| 1515 | -0.9783 | -0.9790 |
| 1530 | -0.9573 | -0.9680 |
| 1545 | -0.9243 | -0.9320 |
| 1600 | -0.8763 | -0.8970 |
| 1615 | -0.8543 | -0.8710 |
| 1630 | -0.8083 | -0.8220 |
| 1645 | -0.7533 | -0.7700 |
| 1700 | -0.6923 | -0.7140 |
| 1715 | -0.6143 | -0.6300 |
| 1730 | -0.5393 | -0.4970 |
| 1745 | -0.4343 | -0.4980 |
| 1800 | -0.2623 | -0.3590 |
| 1815 | -0.2203 | -0.2940 |
| 1830 | -0.2153 | -0.1660 |
| 1845 | -0.2123 | -0.1410 |
| 1900 | -0.1443 | -0.1590 |
| 1915 | -0.1433 | -0.1800 |
| 1930 | -0.1483 | -0.1850 |
| 1945 | -0.1253 | -0.1310 |
| 2000 | -0.0923 | -0.0950 |
| 2015 | -0.0503 | -0.0690 |
| 2030 | -0.0353 | -0.0040 |
| 2045 | 0.0017 | 0.0410 |
| 2100 | 0.0847 | 0.1160 |
| 2115 | 0.1307 | 0.1610 |
| 2130 | 0.1517 | 0.1950 |
| 2145 | 0.2117 | 0.2110 |
| 2200 | 0.2397 | 0.2500 |
| 2215 | 0.2697 | 0.2920 |
| 2230 | 0.2837 | 0.3330 |
| 2245 | 0.3307 | 0.3520 |
| 2300 | 0.3667 | 0.4020 |
| 2315 | 0.4027 | 0.4430 |
| 2330 | 0.4477 | 0.4890 |
| 2345 | 0.4787 | 0.5170 |
| 27 November 1988 | | |
| 0000 | 0.5177 | 0.5440 |
| 0015 | 0.5497 | 0.5640 |
| 0030 | 0.5867 | 0.6090 |
| 0045 | 0.6187 | 0.6340 |
| 0100 | 0.6567 | 0.6790 |
| 0115 | 0.6837 | 0.7180 |
| 0130 | 0.7167 | 0.7420 |
| 0145 | 0.7327 | 0.7780 |
| 0200 | 0.7577 | 0.8050 |
| 0215 | 0.7967 | 0.8410 |
| 0230 | 0.8197 | 0.8650 |
| 0245 | 0.8437 | 0.8760 |
| 0300 | 0.8647 | 0.8980 |
| 0315 | 0.8687 | 0.8820 |
| 0330 | 0.8567 | 0.8720 |
| 0345 | 0.8547 | 0.8530 |
| 0400 | 0.8267 | 0.8270 |
| 0415 | 0.7227 | 0.7060 |
| 0430 | 0.8487 | 0.7420 |
| 0445 | 0.7557 | 0.6840 |
| 0500 | 0.6877 | 0.6660 |

Table 5

Water-Surface Elevation Fluctuations

TG-10 and TG-11, 10-12 November 1988

| Time CST | Water Surface Elevation, ft* TG-10 | TG-11 |
|---|---|---|
| | 10 November 1988 | |
| 1900 | -0.5365 | -0.5458 |
| 1910 | -0.4875 | -0.5118 |
| 1920 | -0.4625 | -0.4788 |
| 1930 | -0.4395 | -0.4638 |
| 1940 | -0.4105 | -0.4278 |
| 1950 | -0.3865 | -0.3958 |
| 2000 | -0.3595 | -0.3658 |
| 2010 | -0.3505 | -0.3558 |
| 2020 | -0.3435 | -0.3408 |
| 2030 | -0.3105 | -0.2998 |
| 2040 | -0.2805 | -0.2858 |
| 2050 | -0.2445 | -0.2638 |
| 2100 | -0.2405 | -0.2428 |
| 2110 | -0.[illegible] | -0.2278 |
| 2120 | -0.[illegible]5 | -0.1988 |
| 2130 | -0.1675 | -0.1818 |
| 2140 | -0.1375 | -0.1488 |
| 2150 | -0.1345 | -0.1348 |
| 2200 | -0.1115 | -0.1388 |
| 221[illegible] | -0.0155 | -0.0718 |
| 2220 | -0.1255 | -0.0448 |
| 2230 | -0.0565 | -0.0788 |
| 2240 | 0.0755 | 0.0362 |
| 2250 | 0.0385 | -0.0458 |
| 2300 | 0.0665 | 0.0412 |
| 2310 | 0.0565 | 0.0772 |
| 2320 | 0.0665 | 0.0782 |
| 2330 | 0.1015 | 0.1252 |
| 2340 | 0.1325 | 0.1402 |
| 2350 | 0.1495 | 0.1742 |
| | 11 November 1988 | |
| 0000 | 0.1795 | 0.1792 |
| 0010 | 0.2085 | 0.2342 |
| 0020 | 0.2455 | 0.2712 |
| 0030 | 0.2685 | 0.3062 |
| 0040 | 0.3035 | 0.3592 |
| 0050 | 0.3215 | 0.3622 |
| 0100 | 0.3255 | 0.3882 |
| 0110 | 0.3525 | 0.3882 |
| 0120 | 0.3685 | 0.4082 |
| 0130 | 0.3875 | 0.4462 |
| 0140 | 0.4165 | 0.4772 |
| 0150 | 0.4475 | 0.4992 |
| 0200 | 0.4645 | 0.5042 |
| 0210 | 0.4785 | 0.5352 |
| 0220 | 0.4815 | 0.5492 |
| 0230 | 0.4805 | 0.5552 |
| 0240 | 0.5085 | 0.5792 |
| 0250 | 0.5175 | 0.6022 |
| 0300 | 0.5445 | 0.6212 |
| 0310 | 0.5625 | 0.6362 |
| 0320 | 0.5595 | 0.6362 |
| 0330 | 0.5555 | 0.6312 |
| 0340 | 0.5575 | 0.6052 |
| 0350 | 0.5385 | 0.5992 |
| 0400 | 0.5255 | 0.5862 |
| 0410 | 0.5235 | 0.5832 |
| 0420 | 0.5075 | 0.5592 |
| 0430 | 0.4665 | 0.5232 |
| 0440 | 0.4555 | 0.5132 |
| 0450 | 0.4485 | 0.5092 |
| 0500 | 0.4365 | 0.4662 |
| 0510 | 0.4125 | 0.4362 |
| 0520 | 0.3775 | 0.3982 |
| 0530 | 0.3585 | 0.3652 |
| 0540 | 0.3255 | 0.3472 |
| 0550 | 0.2875 | 0.2992 |
| 0600 | 0.2605 | 0.2602 |
| 0610 | 0.2085 | 0.2272 |
| 0620 | 0.1955 | 0.1832 |

(Continued)

* Mean water level reading used as a datum.

Table 5 (Continued)

| Time CST | Water Surface Elevation, ft TG-10 | TG-11 | Time CST | Water Surface Elevation, ft TG-10 | TG-11 |
|---|---|---|---|---|---|
| 11 November 1988 (Continued) | | | 11 November 1988 (Continued) | | |
| 0630 | 0.1495 | 0.1542 | 1300 | -0.9065 | -0.9398 |
| 0640 | 0.0955 | 0.1182 | 1310 | -0.9105 | -0.9488 |
| 0650 | 0.0795 | 0.0972 | 1320 | -0.9135 | -0.9518 |
| 0700 | 0.0245 | 0.0582 | 1330 | -0.8945 | -0.9438 |
| 0710 | -0.0085 | 0.0102 | 1340 | -0.8915 | -0.9298 |
| 0720 | -0.0395 | -0.0178 | 1350 | -0.8895 | -0.9208 |
| 0730 | -0.0715 | -0.0448 | 1400 | -0.8745 | -0.9108 |
| 0740 | -0.1205 | -0.0848 | 1410 | -0.8765 | -0.8848 |
| 0750 | -0.1445 | -0.1268 | 1420 | -0.8535 | -0.8848 |
| 0800 | -0.1885 | -0.1728 | 1430 | -0.8585 | -0.8848 |
| 0810 | -0.2235 | -0.2178 | 1440 | -0.8455 | -0.8838 |
| 0820 | -0.2675 | -0.2668 | 1450 | -0.8325 | -0.8608 |
| 0830 | -0.3205 | -0.3168 | 1500 | -0.8175 | -0.8458 |
| 0840 | -0.3505 | -0.3458 | 1510 | -0.7915 | -0.8308 |
| 0850 | -0.3755 | -0.3658 | 1520 | -0.7695 | -0.7928 |
| 0900 | -0.4015 | -0.3918 | 1530 | -0.7495 | -0.7758 |
| 0910 | -0.4365 | -0.4368 | 1540 | -0.7305 | -0.7548 |
| 0920 | -0.4695 | -0.4658 | 1550 | -0.7035 | -0.7328 |
| 0930 | -0.4955 | -0.5018 | 1600 | -0.6745 | -0.6948 |
| 0940 | -0.5515 | -0.5368 | 1610 | -0.6525 | -0.6678 |
| 0950 | -0.5725 | -0.5668 | 1620 | -0.6255 | -0.6298 |
| 1000 | -0.5865 | -0.5948 | 1630 | -0.5935 | -0.6098 |
| 1010 | -0.6195 | -0.6218 | 1640 | -0.5635 | -0.5788 |
| 1020 | -0.6445 | -0.6538 | 1650 | -0.5345 | -0.5448 |
| 1030 | -0.6555 | -0.6708 | 1700 | -0.4905 | -0.4998 |
| 1040 | -0.6755 | -0.6918 | 1710 | -0.4505 | -0.4708 |
| 1050 | -0.6905 | -0.7188 | 1720 | -0.4225 | -0.4258 |
| 1100 | -0.7075 | -0.7408 | 1730 | -0.3915 | -0.3968 |
| 1110 | -0.7235 | -0.7618 | 1740 | -0.3615 | -0.3608 |
| 1120 | -0.7535 | -0.7938 | 1750 | -0.3475 | -0.3338 |
| 1130 | -0.7805 | -0.8218 | 1800 | -0.3155 | -0.3148 |
| 1140 | -0.7945 | -0.8228 | 1810 | -0.2875 | -0.2968 |
| 1150 | -0.8115 | -0.8538 | 1820 | -0.2745 | -0.2668 |
| 1200 | -0.8385 | -0.8698 | 1830 | -0.2515 | -0.2258 |
| 1210 | -0.8565 | -0.8968 | 1840 | -0.2145 | -0.2118 |
| 1220 | -0.8645 | -0.9158 | 1850 | -0.1915 | -0.1848 |
| 1230 | -0.8705 | -0.8968 | 1900 | -0.2105 | -0.1678 |
| 1240 | -0.8775 | -0.9228 | 1910 | -0.1765 | -0.1618 |
| 1250 | -0.8925 | -0.9208 | 1920 | -0.1565 | -0.1398 |

(Continued)

Table 5 (Concluded)

| Time CST | Water Surface Elevation, ft TG-10 | TG-11 |
|---|---|---|
| 11 November 1988 (Continued) | | |
| 1930 | -0.1385 | -0.1038 |
| 1940 | -0.1385 | -0.0858 |
| 1950 | -0.0785 | -0.0708 |
| 2000 | -0.0485 | -0.0568 |
| 2010 | -0.0385 | -0.0348 |
| 2020 | 0.0015 | -0.0108 |
| 2030 | 0.0085 | 0.0102 |
| 2040 | 0.0375 | 0.0422 |
| 2050 | 0.0625 | 0.0482 |
| 2100 | 0.0805 | 0.0872 |
| 2110 | 0.1115 | 0.0972 |
| 2120 | 0.1285 | 0.1222 |
| 2130 | 0.1395 | 0.1242 |
| 2140 | 0.1605 | 0.1402 |
| 2150 | 0.1645 | 0.1472 |
| 2200 | 0.1935 | 0.1772 |
| 2210 | 0.2205 | 0.1902 |
| 2220 | 0.2395 | 0.2072 |
| 2230 | 0.2455 | 0.2222 |
| 2240 | 0.2885 | 0.2662 |
| 2250 | 0.3165 | 0.3152 |
| 2300 | 0.3545 | 0.3652 |
| 2310 | 0.3765 | 0.3762 |
| 2320 | 0.4215 | 0.4322 |
| 2330 | 0.4605 | 0.4612 |
| 2340 | 0.4865 | 0.4912 |
| 2350 | 0.5255 | 0.5282 |
| 12 November 1988 | | |
| 0000 | 0.5515 | 0.5602 |
| 0010 | 0.5805 | 0.5912 |
| 0020 | 0.5985 | 0.6122 |
| 0030 | 0.6035 | 0.6102 |
| 0040 | 0.6425 | 0.6382 |
| 0050 | 0.6565 | 0.6542 |
| 0100 | 0.6775 | 0.6662 |
| 0110 | 0.6985 | 0.6842 |
| 0120 | 0.7185 | 0.7042 |
| 0130 | 0.7375 | 0.7332 |
| 0140 | 0.7605 | 0.7592 |
| 0150 | 0.7795 | 0.7792 |
| 0200 | 0.8105 | 0.8202 |
| 0210 | 0.8365 | 0.8362 |
| 0220 | 0.8535 | 0.8582 |
| 0230 | 0.8675 | 0.8782 |
| 0240 | 0.8965 | 0.8992 |
| 0250 | 0.9095 | 0.9112 |
| 0300 | 0.9385 | 0.9192 |
| 0310 | 0.9285 | 0.9472 |
| 0320 | 0.8995 | 0.9212 |
| 0330 | 1.0255 | 0.9032 |
| 0340 | 1.0195 | 0.9232 |
| 0350 | 0.9645 | 0.9332 |
| 0400 | 0.9815 | 0.9092 |
| 0410 | 1.0025 | 0.9472 |
| 0420 | 0.9105 | 0.9092 |
| 0430 | 0.9445 | 0.8942 |
| 0440 | 0.9625 | 0.8922 |
| 0450 | 0.9295 | 0.8842 |
| 0500 | 0.9315 | 0.8612 |
| 0510 | 0.9055 | 0.8632 |

Table 6

Water-Surface Elevation Fluctuations

TG-10 and TG-11, 26-28 November 1988

| Time CST | Water Surface Elevation, ft* TG-10 | TG-11 |
|---|---|---|
| | 26 November 1988 | |
| 1900 | -0.4774 | -0.5548 |
| 1910 | -0.4554 | -0.4968 |
| 1920 | -0.3824 | -0.4698 |
| 1930 | -0.3744 | -0.4048 |
| 1940 | -0.3364 | -0.4028 |
| 1950 | -0.3134 | -0.3788 |
| 2000 | -0.2714 | -0.3358 |
| 2010 | -0.2494 | -0.2728 |
| 2020 | -0.2084 | -0.2408 |
| 2030 | -0.1924 | -0.2048 |
| 2040 | -0.1564 | -0.2148 |
| 2050 | -0.1354 | -0.1618 |
| 2100 | -0.1074 | -0.1368 |
| 2110 | -0.0764 | -0.1448 |
| 2120 | -0.0574 | -0.1118 |
| 2130 | -0.0554 | -0.0628 |
| 2140 | -0.0194 | -0.0628 |
| 2150 | -0.0094 | -0.0288 |
| 2200 | 0.0026 | 0.0002 |
| 2210 | 0.0646 | 0.0582 |
| 2220 | 0.0886 | 0.0942 |
| 2230 | 0.1146 | 0.1082 |
| 2240 | 0.1356 | 0.1262 |
| 2250 | 0.1656 | 0.1642 |
| 2300 | 0.1766 | 0.1512 |
| 2310 | 0.1866 | 0.1712 |
| 2320 | 0.2216 | 0.1882 |
| 2330 | 0.2486 | 0.2262 |
| 2340 | 0.2606 | 0.2552 |
| 2350 | 0.3086 | 0.2912 |
| | 27 November 1988 | |
| 0000 | 0.3406 | 0.3142 |
| 0010 | 0.3596 | 0.3372 |
| 0020 | 0.3896 | 0.3522 |
| 0030 | 0.4126 | 0.3902 |
| 0040 | 0.4486 | 0.4222 |
| 0050 | 0.4906 | 0.4632 |
| 0100 | 0.5176 | 0.5062 |
| 0110 | 0.5516 | 0.5252 |
| 0120 | 0.5826 | 0.5542 |
| 0130 | 0.6076 | 0.6032 |
| 0140 | 0.6396 | 0.6362 |
| 0150 | 0.6696 | 0.6592 |
| 0200 | 0.7016 | 0.6922 |
| 0210 | 0.7326 | 0.7312 |
| 0220 | 0.7626 | 0.7162 |
| 0230 | 0.7486 | 0.7472 |
| 0240 | 0.7776 | 0.7612 |
| 0250 | 0.7886 | 0.7932 |
| 0300 | 0.8196 | 0.8122 |
| 0310 | 0.8436 | 0.8512 |
| 0320 | 0.8576 | 0.8632 |
| 0330 | 0.8766 | 0.8662 |
| 0340 | 0.8806 | 0.8822 |
| 0350 | 0.9006 | 0.8912 |
| 0400 | 0.9126 | 0.9062 |
| 0410 | 0.9136 | 0.9132 |
| 0420 | 0.9276 | 0.9232 |
| 0430 | 0.9316 | 0.9282 |
| 0440 | 0.9246 | 0.9192 |
| 0450 | 0.9126 | 0.9012 |
| 0500 | 0.9126 | 0.8872 |
| 0510 | 0.9246 | 0.8712 |
| 0520 | 0.8816 | 0.9302 |
| 0530 | 0.9106 | 0.8132 |
| 0540 | 0.8706 | 0.7672 |
| 0550 | 0.7726 | 0.7692 |
| 0600 | 0.7396 | 0.7722 |
| 0610 | 0.7466 | 0.7202 |
| 0620 | 0.7026 | 0.6632 |

(Continued)

* Mean water level reading used as a datum.

Table 6 (Continued)

| Time CST | Water Surface Elevation, ft TG-10 | TG-11 | Time CST | Water Surface Elevation, ft TG-10 | TG-11 |
|---|---|---|---|---|---|
| 27 November 1988 (Continued) | | | 27 November 1988 (Continued) | | |
| 0630 | 0.6646 | 0.6102 | 1300 | -0.4744 | -0.4158 |
| 0640 | 0.6246 | 0.5552 | 1310 | -0.4524 | -0.3888 |
| 0650 | 0.5736 | 0.5352 | 1320 | -0.4194 | -0.3468 |
| 0700 | 0.5156 | 0.4872 | 1340 | -0.4644 | -0.3328 |
| 0710 | 0.4776 | 0.4312 | 1350 | -0.4584 | -0.3378 |
| 0720 | 0.4266 | 0.3902 | 1400 | -0.4694 | -0.3658 |
| 0730 | 0.3756 | 0.3502 | 1410 | -0.5124 | -0.4158 |
| 0740 | 0.3566 | 0.3022 | 1420 | -0.5264 | -0.4188 |
| 0750 | 0.3216 | 0.2582 | 1430 | -0.5234 | -0.4268 |
| 0800 | 0.3366 | 0.2452 | 1440 | -0.5114 | -0.4298 |
| 0810 | 0.2786 | -0.4968 | 1450 | -0.5214 | -0.4218 |
| 0820 | 0.0976 | 0.1592 | 1500 | -0.5484 | -0.4778 |
| 0830 | 0.0476 | 0.0682 | 1510 | -0.5534 | -0.4648 |
| 0840 | 0.0596 | -0.0128 | 1520 | -0.5634 | -0.4878 |
| 0850 | 0.0386 | -0.0588 | 1530 | -0.5714 | -0.4768 |
| 0900 | -0.0454 | -0.1338 | 1540 | -0.5824 | -0.4798 |
| 0910 | -0.1394 | -0.1718 | 1550 | -0.5844 | -0.4818 |
| 0920 | -0.1894 | -0.2118 | 1600 | -0.5644 | -0.4828 |
| 0930 | -0.1994 | -0.2748 | 1610 | -0.5674 | -0.4728 |
| 0940 | -0.1964 | -0.2168 | 1620 | -0.5634 | -0.4678 |
| 0950 | -0.1534 | -0.1908 | 1630 | -0.5754 | -0.4968 |
| 1000 | -0.2364 | -0.1778 | 1640 | -0.5854 | -0.4918 |
| 1010 | -0.0334 | -0.1718 | 1650 | -0.5514 | -0.4428 |
| 1020 | -0.2034 | -0.1978 | 1700 | -0.5384 | -0.4408 |
| 1030 | -0.2414 | -0.2098 | 1710 | -0.5614 | -0.4798 |
| 1040 | -0.2764 | -0.3378 | 1720 | -0.5504 | -0.4568 |
| 1050 | -0.3904 | -0.4698 | 1730 | -0.5394 | -0.4648 |
| 1100 | -0.4194 | -0.4728 | 1740 | -0.5734 | -0.5398 |
| 1110 | -0.4184 | -0.3998 | 1750 | -0.5984 | -0.5738 |
| 1120 | -0.3634 | -0.3438 | 1800 | -0.6124 | -0.5948 |
| 1130 | -0.3304 | -0.3598 | 1810 | -0.5994 | -0.5588 |
| 1140 | -0.3644 | -0.3708 | 1820 | -0.5764 | -0.5648 |
| 1150 | -0.3714 | -0.3708 | 1830 | -0.5704 | -0.5588 |
| 1200 | -0.4094 | -0.3738 | 1840 | -0.5624 | -0.5638 |
| 1210 | -0.4384 | -0.3718 | 1850 | -0.5724 | -0.5508 |
| 1220 | -0.4204 | -0.3518 | 1900 | -0.5634 | -0.5548 |
| 1230 | -0.3794 | -0.3108 | 1910 | -0.5534 | -0.5328 |
| 1240 | -0.5054 | -0.6008 | 1920 | -0.5304 | -0.5208 |
| 1250 | -0.5284 | -0.3878 | 1930 | -0.5224 | -0.4798 |

(Continued)

Table 6 (Concluded)

| Time CST | Water Surface Elevation, ft TG-10 | TG-11 |
|---|---|---|
| 27 November 1988 (Continued) | | |
| 1940 | -0.5064 | -0.4778 |
| 1950 | -0.5054 | -0.4698 |
| 2000 | -0.5004 | -0.4658 |
| 2010 | -0.4694 | -0.4598 |
| 2020 | -0.4664 | -0.4538 |
| 2030 | -0.4304 | -0.4268 |
| 2040 | -0.4194 | -0.4128 |
| 2050 | -0.3804 | -0.3938 |
| 2100 | -0.3774 | -0.4018 |
| 2110 | -0.3574 | -0.3978 |
| 2120 | -0.3454 | -0.3838 |
| 2130 | -0.3454 | -0.3788 |
| 2140 | -0.3454 | -0.3808 |
| 2150 | -0.3264 | -0.3438 |
| 2200 | -0.3144 | -0.3188 |
| 2210 | -0.2724 | -0.2728 |
| 2220 | -0.2264 | -0.2318 |
| 2230 | -0.2224 | -0.2248 |
| 2240 | -0.2064 | -0.1948 |
| 2250 | -0.1744 | -0.2048 |
| 2300 | -0.1694 | -0.1838 |
| 2310 | -0.1674 | -0.1568 |
| 2320 | -0.1514 | -0.1618 |
| 2330 | -0.1264 | -0.1348 |
| 2340 | -0.1074 | -0.1108 |
| 2350 | -0.0774 | -0.0978 |
| 28 November 1988 | | |
| 0000 | -0.0604 | -0.0748 |
| 0010 | -0.0434 | -0.0448 |
| 0020 | -0.0034 | 0.0072 |
| 0030 | 0.0296 | 0.0512 |
| 0040 | 0.0776 | 0.1122 |
| 0050 | 0.1076 | 0.1542 |
| 0100 | 0.1276 | 0.1832 |
| 0110 | 0.1226 | 0.2152 |
| 0120 | 0.1786 | 0.2592 |
| 0130 | 0.1836 | 0.2752 |
| 0140 | 0.2266 | 0.3072 |
| 0150 | 0.2286 | 0.2992 |
| 0200 | 0.2466 | 0.3162 |
| 0210 | 0.2636 | 0.2942 |
| 0220 | 0.2346 | 0.2872 |
| 0230 | 0.2466 | 0.2542 |
| 0240 | 0.2446 | 0.2672 |
| 0250 | 0.2506 | 0.2442 |
| 0300 | 0.2316 | 0.2222 |
| 0310 | 0.2266 | 0.2052 |
| 0320 | 0.2166 | 0.2032 |
| 0330 | 0.2036 | 0.1962 |
| 0340 | 0.1966 | 0.1882 |
| 0350 | 0.1976 | 0.1952 |
| 0400 | 0.1896 | 0.1872 |
| 0410 | 0.1736 | 0.1692 |
| 0420 | 0.1576 | 0.1432 |
| 0430 | 0.1376 | 0.1122 |
| 0440 | 0.1006 | 0.0902 |
| 0450 | 0.0926 | 0.0462 |
| 0500 | 0.0466 | 0.0122 |
| 0510 | 0.0136 | -0.0138 |

Table 7

Water-Surface Elevation Fluctuations

TG-12 and TG-13, 25-27 October 1988

| Date | Time CST | TG-12 Water Surface* ft | Date | Time CST | TG-13 Water Surface* ft |
|---|---|---|---|---|---|
| 10/25/88 | 1900 | 0.2928 | 10/25/88 | 1900 | 0.1936 |
| 10/25/88 | 1910 | 0.2908 | 10/25/88 | 1915 | 0.2136 |
| 10/25/88 | 1920 | 0.2998 | 10/25/88 | 1930 | 0.2426 |
| 10/25/88 | 1930 | 0.3288 | 10/25/88 | 1945 | 0.2486 |
| 10/25/88 | 1940 | 0.3288 | 10/25/88 | 2000 | 0.2506 |
| 10/25/88 | 1950 | 0.3388 | 10/25/88 | 2015 | 0.2766 |
| 10/25/88 | 2000 | 0.3578 | 10/25/88 | 2030 | 0.2976 |
| 10/25/88 | 2010 | 0.3658 | 10/25/88 | 2045 | 0.3256 |
| 10/25/88 | 2020 | 0.3838 | 10/25/88 | 2100 | 0.3236 |
| 10/25/88 | 2030 | 0.3978 | 10/25/88 | 2115 | 0.3316 |
| 10/25/88 | 2040 | 0.4108 | 10/25/88 | 2130 | 0.3486 |
| 10/25/88 | 2050 | 0.4228 | 10/25/88 | 2145 | 0.3726 |
| 10/25/88 | 2100 | 0.4418 | 10/25/88 | 2200 | 0.3836 |
| 10/25/88 | 2110 | 0.4438 | 10/25/88 | 2215 | 0.4066 |
| 10/25/88 | 2120 | 0.4508 | 10/25/88 | 2230 | 0.4126 |
| 10/25/88 | 2130 | 0.4598 | 10/25/88 | 2245 | 0.4326 |
| 10/25/88 | 2140 | 0.4718 | 10/25/88 | 2300 | 0.4666 |
| 10/25/88 | 2150 | 0.4838 | 10/25/88 | 2315 | 0.4826 |
| 10/25/88 | 2200 | 0.4938 | 10/25/88 | 2330 | 0.5206 |
| 10/25/88 | 2210 | 0.5118 | 10/25/88 | 2345 | 0.5496 |
| 10/25/88 | 2220 | 0.5138 | 10/26/88 | 0000 | 0.5636 |
| 10/25/88 | 2230 | 0.5278 | 10/26/88 | 0015 | 0.5846 |
| 10/25/88 | 2240 | 0.5138 | 10/26/88 | 0030 | 0.6126 |
| 10/25/88 | 2250 | 0.5498 | 10/26/88 | 0045 | 0.6356 |
| 10/25/88 | 2300 | 0.5588 | 10/26/88 | 0100 | 0.6266 |
| 10/25/88 | 2310 | 0.5708 | 10/26/88 | 0115 | 0.6576 |
| 10/25/88 | 2320 | 0.5738 | 10/26/88 | 0130 | 0.6496 |
| 10/25/88 | 2330 | 0.5828 | 10/26/88 | 0145 | 0.6456 |
| 10/25/88 | 2340 | 0.5948 | 10/26/88 | 0200 | 0.6456 |
| 10/25/88 | 2350 | 0.6098 | 10/26/88 | 0215 | 0.6196 |
| 10/26/88 | 0000 | 0.6108 | 10/26/88 | 0230 | 0.6156 |
| 10/26/88 | 0010 | 0.6198 | 10/26/88 | 0245 | 0.5786 |
| 10/26/88 | 0020 | 0.6298 | 10/26/88 | 0300 | 0.5686 |
| 10/26/88 | 0030 | 0.6308 | 10/26/88 | 0315 | 0.5246 |
| 10/26/88 | 0040 | 0.6368 | 10/26/88 | 0330 | 0.5146 |

(Continued)

* Mean water level reading used as a datum.

Table 7 (Continued)

| Date | Time CST | TG-12 Water Surface ft | Date | Time CST | TG-13 Water Surface ft |
|---|---|---|---|---|---|
| 10/26/88 | 0050 | 0.6468 | 10/26/88 | 0345 | 0.4776 |
| 10/26/88 | 0100 | 0.6478 | 10/26/88 | 0400 | 0.4216 |
| 10/26/88 | 0110 | 0.6458 | 10/26/88 | 0415 | 0.3596 |
| 10/26/88 | 0120 | 0.6508 | 10/26/88 | 0430 | 0.3076 |
| 10/26/88 | 0130 | 0.6488 | 10/26/88 | 0445 | 0.2446 |
| 10/26/88 | 0140 | 0.6408 | 10/26/88 | 0500 | 0.1846 |
| 10/26/88 | 0150 | 0.5858 | 10/26/88 | 0515 | 0.1446 |
| 10/26/88 | 0200 | 0.4998 | 10/26/88 | 0530 | 0.0786 |
| 10/26/88 | 0210 | 0.5858 | 10/26/88 | 0545 | 0.0006 |
| 10/26/88 | 0220 | 0.6008 | 10/26/88 | 0600 | -0.0534 |
| 10/26/88 | 0230 | 0.5928 | 10/26/88 | 0615 | -0.1254 |
| 10/26/88 | 0240 | 0.5408 | 10/26/88 | 0630 | -0.1974 |
| 10/26/88 | 0250 | 0.5348 | 10/26/88 | 0645 | -0.2704 |
| 10/26/88 | 0300 | 0.5348 | 10/26/88 | 0700 | -0.3104 |
| 10/26/88 | 0310 | 0.4968 | 10/26/88 | 0715 | -0.3514 |
| 10/26/88 | 0320 | 0.5018 | 10/26/88 | 0730 | -0.3944 |
| 10/26/88 | 0330 | 0.4798 | 10/26/88 | 0745 | -0.4714 |
| 10/26/88 | 0340 | 0.4208 | 10/26/88 | 0800 | -0.5124 |
| 10/26/88 | 0350 | 0.4148 | 10/26/88 | 0815 | -0.5614 |
| 10/26/88 | 0400 | 0.3968 | 10/26/88 | 0830 | -0.6054 |
| 10/26/88 | 0410 | 0.3248 | 10/26/88 | 0845 | -0.6594 |
| 10/26/88 | 0420 | 0.2918 | 10/26/88 | 0900 | -0.7104 |
| 10/26/88 | 0430 | 0.2338 | 10/26/88 | 0915 | -0.7464 |
| 10/26/88 | 0440 | 0.2088 | 10/26/88 | 0930 | -0.7804 |
| 10/26/88 | 0450 | 0.1658 | 10/26/88 | 0945 | -0.7964 |
| 10/26/88 | 0500 | 0.1258 | 10/26/88 | 1000 | -0.8124 |
| 10/26/88 | 0510 | 0.0758 | 10/26/88 | 1015 | -0.8304 |
| 10/26/88 | 0520 | 0.0278 | 10/26/88 | 1030 | -0.8544 |
| 10/26/88 | 0530 | -0.0212 | 10/26/88 | 1045 | -0.8654 |
| 10/26/88 | 0540 | -0.0522 | 10/26/88 | 1100 | -0.8814 |
| 10/26/88 | 0550 | -0.1002 | 10/26/88 | 1115 | -0.9124 |
| 10/26/88 | 0600 | -0.1522 | 10/26/88 | 1130 | -0.9424 |
| 10/26/88 | 0610 | -0.1972 | 10/26/88 | 1145 | -0.9644 |
| 10/26/88 | 0620 | -0.2492 | 10/26/88 | 1200 | -0.9844 |
| 10/26/88 | 0630 | -0.3162 | 10/26/88 | 1215 | -1.0004 |
| 10/26/88 | 0640 | -0.3842 | 10/26/88 | 1230 | -0.9844 |
| 10/26/88 | 0650 | -0.4172 | 10/26/88 | 1245 | -1.0114 |
| 10/26/88 | 0700 | -0.4282 | 10/26/88 | 1300 | -1.0094 |
| 10/26/88 | 0710 | -0.4862 | 10/26/88 | 1315 | -0.9954 |
| 10/26/88 | 0720 | -0.5572 | 10/26/88 | 1330 | -0.9894 |

(Continued)

Table 7 (Continued)

| Date | Time CST | TG-12 Water Surface ft | Date | Time CST | TG-13 Water Surface ft |
|---|---|---|---|---|---|
| 10/26/88 | 0730 | -0.5982 | 10/26/88 | 1345 | -0.9964 |
| 10/26/88 | 0740 | -0.6402 | 10/26/88 | 1400 | -1.0034 |
| 10/26/88 | 0750 | -0.7142 | 10/26/88 | 1415 | -0.9844 |
| 10/26/88 | 0800 | -0.7252 | 10/26/88 | 1430 | -1.0014 |
| 10/26/88 | 0810 | -0.7772 | 10/26/88 | 1445 | -1.0094 |
| 10/26/88 | 0820 | -0.8152 | 10/26/88 | 1500 | -1.0204 |
| 10/26/88 | 0830 | -0.8642 | 10/26/88 | 1515 | -1.0204 |
| 10/26/88 | 0840 | -0.9112 | 10/26/88 | 1530 | -1.0104 |
| 10/26/88 | 0850 | -0.9112 | 10/26/88 | 1545 | -0.9854 |
| 10/26/88 | 0900 | -0.9532 | 10/26/88 | 1600 | -0.9194 |
| 10/26/88 | 0910 | -0.9812 | 10/26/88 | 1615 | -0.8504 |
| 10/26/88 | 0920 | -1.0052 | 10/26/88 | 1630 | -0.7804 |
| 10/26/88 | 0930 | -1.0312 | 10/26/88 | 1645 | -0.7004 |
| 10/26/88 | 0940 | -1.0852 | 10/26/88 | 1700 | -0.7844 |
| 10/26/88 | 0950 | -1.0612 | 10/26/88 | 1715 | -0.6194 |
| 10/26/88 | 1000 | -1.0802 | 10/26/88 | 1730 | -0.5894 |
| 10/26/88 | 1010 | -1.1342 | 10/26/88 | 1745 | -0.6034 |
| 10/26/88 | 1020 | -1.1252 | 10/26/88 | 1800 | -0.5884 |
| 10/26/88 | 1030 | -1.1502 | 10/26/88 | 1815 | -0.4754 |
| 10/26/88 | 1040 | -1.1852 | 10/26/88 | 1830 | -0.3804 |
| 10/26/88 | 1050 | -1.1922 | 10/26/88 | 1845 | -0.3844 |
| 10/26/88 | 1100 | -1.1822 | 10/26/88 | 1900 | -0.2224 |
| 10/26/88 | 1110 | -1.2302 | 10/26/88 | 1915 | -0.1474 |
| 10/26/88 | 1120 | -1.2132 | 10/26/88 | 1930 | -0.1334 |
| 10/26/88 | 1130 | -1.2382 | 10/26/88 | 1945 | -0.0414 |
| 10/26/88 | 1140 | -1.2222 | 10/26/88 | 2000 | 0.0376 |
| 10/26/88 | 1150 | -1.2442 | 10/26/88 | 2015 | 0.0106 |
| 10/26/88 | 1200 | -1.2382 | 10/26/88 | 2030 | 0.0226 |
| 10/26/88 | 1210 | -1.2552 | 10/26/88 | 2045 | 0.0666 |
| 10/26/88 | 1220 | -1.2292 | 10/26/88 | 2100 | 0.0856 |
| 10/26/88 | 1230 | -1.2362 | 10/26/88 | 2115 | 0.1176 |
| 10/26/88 | 1240 | -1.2212 | 10/26/88 | 2130 | 0.1946 |
| 10/26/88 | 1250 | -1.2072 | 10/26/88 | 2145 | 0.2646 |
| 10/26/88 | 1300 | -1.2102 | 10/26/88 | 2200 | 0.3096 |
| 10/26/88 | 1310 | -1.1982 | 10/26/88 | 2215 | 0.3856 |
| 10/26/88 | 1320 | -1.1702 | 10/26/88 | 2230 | 0.4316 |
| 10/26/88 | 1330 | -1.1512 | 10/26/88 | 2245 | 0.4646 |
| 10/26/88 | 1340 | -1.1282 | 10/26/88 | 2300 | 0.5016 |
| 10/26/88 | 1350 | -1.1042 | 10/26/88 | 2315 | 0.5166 |
| 10/26/88 | 1400 | -1.0902 | 10/26/88 | 2330 | 0.5276 |

(Continued)

Table 7 (Continued)

| Date | Time CST | TG-12 Water Surface ft |
|---|---|---|
| 10/26/88 | 1410 | -1.0372 |
| 10/26/88 | 1420 | -0.9812 |
| 10/26/88 | 1430 | -0.9582 |
| 10/26/88 | 1440 | -0.9282 |
| 10/26/88 | 1450 | -0.8982 |
| 10/26/88 | 1500 | -0.8812 |
| 10/26/88 | 1510 | -0.8492 |
| 10/26/88 | 1520 | -0.8362 |
| 10/26/88 | 1530 | -1.0212 |
| 10/26/88 | 1540 | -0.7482 |
| 10/26/88 | 1550 | -0.7252 |
| 10/26/88 | 1600 | -0.6812 |
| 10/26/88 | 1610 | -0.6422 |
| 10/26/88 | 1620 | -0.6042 |
| 10/26/88 | 1630 | -0.5562 |
| 10/26/88 | 1640 | -0.5132 |
| 10/26/88 | 1650 | -0.5072 |
| 10/26/88 | 1700 | -0.3822 |
| 10/26/88 | 1710 | -0.5372 |
| 10/26/88 | 1720 | -0.3222 |
| 10/26/88 | 1730 | -0.4212 |
| 10/26/88 | 1740 | -0.3522 |
| 10/26/88 | 1750 | -0.3152 |
| 10/26/88 | 1800 | -0.2932 |
| 10/26/88 | 1810 | -0.2502 |
| 10/26/88 | 1820 | -0.2012 |
| 10/26/88 | 1830 | -0.1332 |
| 10/26/88 | 1840 | -0.1122 |
| 10/26/88 | 1850 | -0.0272 |
| 10/26/88 | 1900 | -0.0232 |
| 10/26/88 | 1910 | 0.0338 |
| 10/26/88 | 1920 | 0.0908 |
| 10/26/88 | 1930 | 0.1098 |
| 10/26/88 | 1940 | 0.1348 |
| 10/26/88 | 1950 | 0.1728 |
| 10/26/88 | 2000 | 0.1818 |
| 10/26/88 | 2010 | 0.2128 |
| 10/26/88 | 2020 | 0.2208 |
| 10/26/88 | 2030 | 0.2468 |
| 10/26/88 | 2040 | 0.2698 |

| Date | Time CST | TG-13 Water Surface ft |
|---|---|---|
| 10/26/88 | 2345 | 0.5496 |
| 10/27/88 | 0000 | 0.5886 |
| 10/27/88 | 0015 | 0.6186 |
| 10/27/88 | 0030 | 0.6666 |
| 10/27/88 | 0045 | 0.6956 |
| 10/27/88 | 0100 | 0.7296 |
| 10/27/88 | 0115 | 0.7786 |
| 10/27/88 | 0130 | 0.8016 |
| 10/27/88 | 0145 | 0.8076 |
| 10/27/88 | 0200 | 0.8296 |
| 10/27/88 | 0215 | 0.8586 |
| 10/27/88 | 0230 | 0.8776 |
| 10/27/88 | 0245 | 0.8846 |
| 10/27/88 | 0300 | 0.8836 |
| 10/27/88 | 0315 | 0.8576 |
| 10/27/88 | 0330 | 0.8396 |
| 10/27/88 | 0345 | 0.8006 |
| 10/27/88 | 0400 | 0.7776 |
| 10/27/88 | 0415 | 0.7516 |
| 10/27/88 | 0430 | 0.6946 |
| 10/27/88 | 0445 | 0.6526 |
| 10/27/88 | 0500 | 0.6166 |

End of data for TG-13

(Continued)

Table 7 (Continued)

| Date | Time CST | TG-12 Water Surface ft | Date | Time CST | TG-13 Water Surface ft |
|---|---|---|---|---|---|
| 10/26/88 | 2050 | 0.2978 | | | |
| 10/26/88 | 2100 | 0.3098 | | | |
| 10/26/88 | 2110 | 0.3348 | | | |
| 10/26/88 | 2120 | 0.3478 | | | |
| 10/26/88 | 2130 | 0.3788 | | | |
| 10/26/88 | 2140 | 0.3938 | | | |
| 10/26/88 | 2150 | 0.4228 | | | |
| 10/26/88 | 2200 | 0.4388 | | | |
| 10/26/88 | 2210 | 0.4698 | | | |
| 10/26/88 | 2220 | 0.4768 | | | |
| 10/26/88 | 2230 | 0.4968 | | | |
| 10/26/88 | 2240 | 0.5168 | | | |
| 10/26/88 | 2250 | 0.5368 | | | |
| 10/26/88 | 2300 | 0.5588 | | | |
| 10/26/88 | 2310 | 0.5818 | | | |
| 10/26/88 | 2320 | 0.6068 | | | |
| 10/26/88 | 2330 | 0.6128 | | | |
| 10/26/88 | 2340 | 0.6378 | | | |
| 10/26/88 | 2350 | 0.6518 | | | |
| 10/27/88 | 0000 | 0.6608 | | | |
| 10/27/88 | 0010 | 0.6808 | | | |
| 10/27/88 | 0020 | 0.6978 | | | |
| 10/27/88 | 0030 | 0.7058 | | | |
| 10/27/88 | 0040 | 0.7168 | | | |
| 10/27/88 | 0050 | 0.7318 | | | |
| 10/27/88 | 0100 | 0.7538 | | | |
| 10/27/88 | 0110 | 0.7628 | | | |
| 10/27/88 | 0120 | 0.7808 | | | |
| 10/27/88 | 0130 | 0.7908 | | | |
| 10/27/88 | 0140 | 0.7888 | | | |
| 10/27/88 | 0150 | 0.8018 | | | |
| 10/27/88 | 0200 | 0.8058 | | | |
| 10/27/88 | 0210 | 0.8098 | | | |
| 10/27/88 | 0220 | 0.8168 | | | |
| 10/27/88 | 0230 | 0.8118 | | | |
| 10/27/88 | 0240 | 0.8118 | | | |
| 10/27/88 | 0250 | 0.8068 | | | |
| 10/27/88 | 0300 | 0.8028 | | | |
| 10/27/88 | 0310 | 0.8028 | | | |
| 10/27/88 | 0320 | 0.8188 | | | |

(Continued)

Table 7 (Concluded)

| Date | Time CST | TG-12 Water Surface ft | Date | Time CST | TG-13 Water Surface ft |
|---|---|---|---|---|---|
| 10/27/88 | 0330 | 0.3508 | | | |
| 10/27/88 | 0340 | 0.7468 | | | |
| 10/27/88 | 0350 | 0.7418 | | | |
| 10/27/88 | 0400 | 0.7268 | | | |
| 10/27/88 | 0410 | 0.6858 | | | |
| 10/27/88 | 0420 | 0.6258 | | | |
| 10/27/88 | 0430 | 0.6328 | | | |
| 10/27/88 | 0440 | 0.5858 | | | |
| 10/27/88 | 0450 | 0.5568 | | | |
| 10/27/88 | 0500 | 0.5318 | | | |
| 10/27/88 | 0510 | 0.4928 | | | |

Table 8

Water Surface Elevation Fluctuations

TG-12 and TG-13, 10-12 November 1988

| Time CST | Water Surface Elevation, ft* TG-12 | TG-13 |
|---|---|---|
| | 10 November 1988 | |
| 1900 | -0.3320 | -0.4673 |
| 1910 | -0.3620 | -0.4303 |
| 1920 | -0.2900 | -0.4163 |
| 1930 | -0.2560 | -0.4133 |
| 1940 | -0.2620 | -0.3663 |
| 1950 | -0.2210 | -0.3283 |
| 2000 | -0.1890 | -0.3403 |
| 2010 | -0.1680 | -0.2893 |
| 2020 | -0.1380 | -0.2573 |
| 2030 | -0.1060 | -0.2073 |
| 2040 | -0.0800 | -0.1803 |
| 2050 | -0.0600 | -0.1233 |
| 2100 | -0.0370 | -0.1283 |
| 2110 | 0.0010 | -0.1073 |
| 2120 | 0.0320 | -0.0593 |
| 2130 | 0.0370 | -0.0273 |
| 2140 | 0.1650 | -0.0973 |
| 2150 | -0.0380 | 0.0177 |
| 2200 | 0.1410 | 0.0677 |
| 2210 | 0.1440 | 0.0557 |
| 2220 | 0.1680 | 0.0907 |
| 2230 | 0.1600 | 0.0917 |
| 2240 | 0.1740 | 0.0917 |
| 2250 | 0.2040 | 0.1127 |
| 2300 | 0.2450 | 0.1747 |
| 2310 | 0.2320 | 0.1817 |
| 2320 | 0.3040 | 0.1687 |
| 2330 | 0.2170 | 0.2307 |
| 2340 | 0.2490 | 0.2557 |
| 2350 | 0.2780 | 0.2817 |
| | 11 November 1988 | |
| 0000 | 0.2790 | 0.2907 |
| 0010 | 0.2720 | 0.3117 |
| 0020 | 0.2960 | 0.3467 |
| 0030 | 0.3010 | 0.3947 |
| 0040 | 0.3130 | 0.4177 |
| 0050 | 0.3010 | 0.4347 |
| 0100 | 0.3100 | 0.4617 |
| 0110 | 0.3320 | 0.5047 |
| 0120 | 0.3410 | 0.5567 |
| 0130 | 0.3430 | 0.5847 |
| 0140 | 0.3560 | 0.5947 |
| 0150 | 0.3550 | 0.6117 |
| 0200 | 0.3620 | 0.6157 |
| 0210 | 0.3690 | 0.6077 |
| 0220 | 0.3700 | 0.6137 |
| 0230 | 0.3820 | 0.5947 |
| 0240 | 0.3890 | 0.6087 |
| 0250 | 0.3800 | 0.5867 |
| 0300 | 0.3700 | 0.5907 |
| 0310 | 0.3740 | 0.5687 |
| 0320 | 0.3750 | 0.5967 |
| 0330 | 0.3670 | 0.6137 |
| 0340 | 0.3740 | 0.5847 |
| 0350 | 0.3510 | 0.5677 |
| 0400 | 0.3450 | 0.5487 |
| 0410 | 0.3300 | 0.5267 |
| 0420 | 0.3050 | 0.4907 |
| 0430 | 0.2870 | 0.4537 |
| 0440 | 0.2650 | 0.4387 |
| 0450 | 0.2480 | 0.4447 |
| 0500 | 0.2390 | 0.4297 |
| 0510 | 0.1990 | 0.4067 |
| 0520 | 0.1690 | 0.3837 |
| 0530 | 0.1340 | 0.3617 |
| 0540 | 0.0940 | 0.3297 |
| 0550 | 0.0650 | 0.3117 |
| 0600 | 0.0240 | 0.2727 |

(Continued)

* Mean water level reading used as a datum.

Table 8 (Continued)

| Time CST | Water Surface Elevation, ft TG-12 | TG-13 |
|---|---|---|
| 11 November 1988 (Continued) | | |
| 0610 | -0.0180 | 0.2317 |
| 0620 | -0.0640 | 0.1487 |
| 0630 | -0.1020 | 0.1437 |
| 0640 | -0.1580 | 0.0847 |
| 0650 | -0.2140 | 0.0487 |
| 0700 | -0.2550 | -0.0303 |
| 0710 | -0.2840 | -0.0793 |
| 0720 | -0.3290 | -0.0993 |
| 0730 | -0.3790 | -0.1483 |
| 0740 | -0.4260 | -0.1923 |
| 0750 | -0.4600 | -0.2213 |
| 0800 | -0.5050 | -0.2523 |
| 0810 | -0.5380 | -0.2603 |
| 0820 | -0.5690 | -0.2893 |
| 0830 | -0.6070 | -0.3273 |
| 0840 | -0.6510 | -0.3923 |
| 0850 | -0.6930 | -0.4553 |
| 0900 | -0.7260 | -0.4923 |
| 0910 | -0.7640 | -0.5103 |
| 0920 | -0.7890 | -0.5633 |
| 0930 | -0.8090 | -0.5873 |
| 0940 | -0.8340 | -0.6303 |
| 0950 | -0.8530 | -0.6373 |
| 1000 | -0.8830 | -0.6473 |
| 1010 | -0.9000 | -0.6773 |
| 1020 | -0.9210 | -0.7303 |
| 1030 | -0.9450 | -0.7613 |
| 1040 | -0.9530 | -0.7823 |
| 1050 | -0.9700 | -0.8103 |
| 1100 | -0.9710 | -0.8303 |
| 1110 | -0.9790 | -0.8393 |
| 1120 | -0.9790 | -0.8743 |
| 1130 | -0.9830 | -0.8823 |
| 1140 | -0.9880 | -0.8663 |
| 1150 | -0.9910 | -0.8673 |
| 1200 | -0.9890 | -0.8913 |
| 1210 | -0.9970 | -0.9133 |
| 1220 | -0.9860 | -0.9363 |
| 1230 | -0.9840 | -0.9253 |
| 1250 | -0.9850 | -0.9423 |
| 1250 | -0.9650 | -0.9233 |
| 1300 | -0.9650 | -0.9293 |
| 1310 | -0.9390 | -0.9573 |
| 1320 | -0.9410 | -0.9473 |
| 1330 | -0.9150 | -0.9453 |
| 1340 | -0.9140 | -0.9473 |
| 1350 | -0.9020 | -0.9493 |
| 1400 | -0.8930 | -0.9523 |
| 1410 | -0.8760 | -0.9323 |
| 1420 | -0.8570 | -0.9233 |
| 1430 | -0.8380 | -0.9253 |
| 1440 | -0.8120 | -0.9093 |
| 1450 | -0.8030 | -0.9083 |
| 1500 | -0.7770 | -0.8893 |
| 1510 | -0.7400 | -0.8673 |
| 1520 | -0.7260 | -0.8223 |
| 1530 | -0.6820 | -0.7913 |
| 1540 | -0.6390 | -0.7583 |
| 1550 | -0.5940 | -0.7343 |
| 1600 | -0.5710 | -0.6953 |
| 1610 | -0.5220 | -0.6623 |
| 1620 | -0.4810 | -0.6493 |
| 1630 | -0.4530 | -0.6203 |
| 1640 | -0.4030 | -0.5793 |
| 1650 | -0.3690 | -0.5263 |
| 1700 | -0.3390 | -0.5063 |
| 1710 | -0.3090 | -0.4853 |
| 1720 | -0.2760 | -0.4693 |
| 1730 | -0.2510 | -0.4353 |
| 1740 | -0.2200 | -0.4053 |
| 1750 | -0.1890 | -0.3843 |
| 1800 | -0.1540 | -0.3623 |
| 1810 | -0.1290 | -0.3323 |
| 1820 | -0.1030 | -0.3073 |
| 1830 | -0.0690 | -0.2763 |
| 1840 | -0.0480 | -0.2373 |
| 1850 | -0.0230 | -0.2083 |
| 1900 | 0.0020 | -0.1683 |

(Continued)

Table 8 (Concluded)

| Time CST | Water Surface Elevation, ft TG-12 | TG-13 |
|---|---|---|
| 11 November 1988 (Continued) | | |
| 1910 | 0.0350 | -0.1493 |
| 1920 | 0.0600 | -0.1223 |
| 1930 | 0.0880 | -0.1123 |
| 1940 | 0.1060 | -0.0913 |
| 1950 | 0.1230 | -0.0693 |
| 2000 | 0.1450 | -0.0343 |
| 2010 | 0.1580 | -0.0123 |
| 2020 | 0.1880 | 0.0077 |
| 2030 | 0.2070 | 0.0217 |
| 2040 | 0.2320 | 0.0277 |
| 2050 | 0.2500 | 0.0437 |
| 2100 | 0.2790 | 0.0467 |
| 2110 | 0.2920 | 0.0507 |
| 2120 | 0.3200 | 0.0607 |
| 2130 | 0.3460 | 0.0727 |
| 2140 | 0.3790 | 0.1097 |
| 2150 | 0.3970 | 0.1367 |
| 2200 | 0.4150 | 0.1387 |
| 2210 | 0.4450 | 0.1777 |
| 2220 | 0.4600 | 0.1997 |
| 2230 | 0.4710 | 0.2517 |
| 2240 | 0.5010 | 0.3177 |
| 2250 | 0.5280 | 0.3647 |
| 2300 | 0.5450 | 0.3857 |
| 2310 | 0.5720 | 0.4247 |
| 2320 | 0.5940 | 0.4437 |
| 2330 | 0.6160 | 0.4697 |
| 2340 | 0.6390 | 0.4797 |
| 2350 | 0.6700 | 0.4797 |
| 12 November 1988 | | |
| 0000 | 0.6850 | 0.4987 |
| 0010 | 0.7030 | 0.5267 |
| 0020 | 0.7210 | 0.5567 |
| 0030 | 0.7470 | 0.5947 |
| 0040 | 0.7530 | 0.6197 |
| 0050 | 0.7810 | 0.6497 |
| 0100 | 0.7980 | 0.6847 |
| 0110 | 0.8080 | 0.7037 |
| 0120 | 0.8260 | 0.7407 |
| 0130 | 0.8430 | 0.7657 |
| 0140 | 0.8470 | 0.7777 |
| 0150 | 0.8610 | 0.7947 |
| 0200 | 0.8710 | 0.8057 |
| 0210 | 0.9080 | 0.8197 |
| 0220 | 0.7610 | 0.8227 |
| 0230 | 0.9260 | 0.8537 |
| 0240 | 0.8950 | 0.8327 |
| 0250 | 0.8910 | 0.8427 |
| 0300 | 0.9030 | 0.8437 |
| 0310 | 0.8870 | 0.8467 |
| 0320 | 0.9620 | 0.8477 |
| 0330 | 0.8450 | 0.8977 |
| 0340 | 0.9380 | 0.9087 |
| 0350 | 0.8900 | 0.9027 |
| 0400 | 0.9310 | 0.9197 |
| 0410 | 0.9080 | 0.9127 |
| 0420 | 0.8840 | 0.9077 |
| 0430 | 0.8740 | 0.9037 |
| 0440 | 0.8480 | 0.8887 |
| 0450 | 0.8330 | 0.8777 |
| 0500 | 0.7950 | 0.8627 |
| 0510 | 0.7640 | 0.8417 |

Table 9

Water Surface Elevation Fluctuations

TG-12 and TG-13, 26-28 November 1988

| Time CST | Water Surface Elevation, ft* TG-12 | TG-13 |
|---|---|---|
| | 26 November 1988 | |
| 1900 | -0.2720 | -0.9252 |
| 1910 | -0.2420 | -0.8432 |
| 1920 | -0.2160 | -0.8042 |
| 1930 | -0.1970 | -0.7662 |
| 1940 | -0.1670 | -0.6962 |
| 1950 | -0.1390 | -0.6462 |
| 2000 | -0.1040 | -0.6062 |
| 2010 | -0.0840 | -0.5312 |
| 2020 | -0.0500 | -0.4882 |
| 2030 | -0.0380 | -0.4522 |
| 2040 | -0.0220 | -0.4052 |
| 2050 | 0.0020 | -0.3752 |
| 2100 | 0.0090 | -0.3382 |
| 2110 | 0.0400 | -0.3102 |
| 2120 | 0.0610 | -0.2822 |
| 2130 | 0.0940 | -0.2522 |
| 2140 | 0.1160 | -0.2052 |
| 2150 | 0.1340 | -0.1972 |
| 2200 | 0.1590 | -0.1792 |
| 2210 | 0.1830 | -0.1542 |
| 2220 | 0.2280 | -0.1182 |
| 2230 | 0.2470 | -0.1002 |
| 2240 | 0.2720 | -0.0562 |
| 2250 | 0.3060 | -0.0252 |
| 2300 | 0.3220 | 0.0118 |
| 2310 | 0.3740 | 0.0508 |
| 2320 | 0.3960 | 0.1198 |
| 2330 | 0.4240 | 0.1338 |
| 2340 | 0.4680 | 0.1808 |
| 2350 | 0.4810 | 0.2178 |
| | 27 November 1988 | |
| 0000 | 0.5000 | 0.2578 |
| 0010 | 0.5450 | 0.2888 |
| 0020 | 0.5720 | 0.3068 |
| 0030 | 0.5950 | 0.3328 |
| 0040 | 0.6260 | 0.3608 |
| 0050 | 0.6470 | 0.3808 |
| 0100 | 0.6770 | 0.3928 |
| 0110 | 0.6150 | 0.4188 |
| 0120 | 0.7100 | 0.4598 |
| 0130 | 0.7340 | 0.4748 |
| 0140 | 0.7390 | 0.5048 |
| 0150 | 0.7770 | 0.5418 |
| 0200 | 0.7920 | 0.5538 |
| 0210 | 0.8100 | 0.5898 |
| 0220 | 0.8220 | 0.6298 |
| 0230 | 0.8450 | 0.6648 |
| 0240 | 0.8660 | 0.6818 |
| 0250 | 0.8790 | 0.6938 |
| 0300 | 0.8900 | 0.7128 |
| 0310 | 0.8900 | 0.7228 |
| 0320 | 0.8940 | 0.7378 |
| 0330 | 0.9060 | 0.7328 |
| 0340 | 0.9030 | 0.7378 |
| 0350 | 0.9120 | 0.7358 |
| 0400 | 0.9170 | 0.7468 |
| 0410 | 0.8330 | 0.7408 |
| 0420 | 0.8990 | 0.7378 |
| 0430 | 0.8570 | 0.7368 |
| 0440 | 0.8690 | 0.6968 |
| 0450 | 0.8660 | 0.6958 |
| 0500 | 0.8430 | 0.6878 |
| 0510 | 0.8230 | 0.6628 |
| 0520 | 0.7960 | 0.6338 |
| 0530 | 0.7780 | 0.6238 |
| 0540 | 0.7500 | 0.5818 |
| 0550 | 0.7260 | 0.5668 |
| 0600 | 0.6820 | 0.5448 |

(Continued)

* Mean water level reading used as a datum.

Table 9 (Continued)

| Time CST | Water Surface Elevation, ft TG-12 | TG-13 |
|---|---|---|
| 27 November 1988 (Continued) | | |
| 0610 | 0.6520 | 0.5168 |
| 0620 | 0.6010 | 0.4878 |
| 0630 | 0.5720 | 0.4458 |
| 0640 | 0.5300 | 0.4008 |
| 0650 | 0.4820 | 0.3618 |
| 0700 | 0.4380 | 0.3408 |
| 0710 | 0.4050 | 0.2798 |
| 0720 | 0.3370 | 0.2178 |
| 0730 | 0 2960 | 0.1608 |
| 0740 | 0.2250 | 0.0928 |
| 0750 | 0.1800 | 0.0168 |
| 0800 | 0.1350 | -0.0382 |
| 0810 | 0.0700 | -0.0942 |
| 0820 | 0.0240 | -0.1532 |
| 0830 | -0.0100 | -0.1452 |
| 0840 | -0.0670 | -0.1922 |
| 0850 | -0.2160 | -0.2462 |
| 0900 | -0.2420 | -0.3152 |
| 0910 | -0.2860 | -0.3432 |
| 0920 | -0.3220 | -0.4072 |
| 0930 | -0.4830 | -0.4342 |
| 0940 | -0.4060 | -0.4862 |
| 0950 | -0.4890 | -0.5652 |
| 1000 | -0.5290 | -0.6042 |
| 1010 | -0.5400 | -0.6072 |
| 1020 | -0.5540 | -0.3122 |
| 1030 | -0.5520 | -0.3232 |
| 1040 | -0.5130 | -0.1602 |
| 1050 | -0.4960 | -0.0772 |
| 1100 | -0.5130 | 0.0288 |
| 1110 | -0.5570 | -0.0012 |
| 1120 | -0.6320 | -0.0872 |
| 1130 | -0.6750 | -0.2112 |
| 1140 | -0.7210 | -0.0942 |
| 1150 | -0.6990 | -0.0092 |
| 1200 | -0.7000 | -0.0152 |
| 1210 | -0.7000 | -0.1082 |
| 1220 | -0.7210 | -0.2322 |
| 1230 | -0.7380 | -0.1982 |
| 1240 | -0.7430 | -0.0482 |
| 1250 | -0.7530 | -0.0912 |
| 1300 | -0.7590 | -0.1712 |
| 1310 | -0.7640 | -0.2122 |
| 1320 | -0.7850 | -0.2302 |
| 1330 | -0.9960 | -0.1792 |
| 1340 | -0.8240 | -0.2292 |
| 1350 | -0.7630 | -0.2522 |
| 1400 | -0.8070 | -0.2542 |
| 1410 | -0.8080 | -0.2832 |
| 1420 | -0.7890 | -0.1332 |
| 1430 | -0.7760 | -0.1702 |
| 1440 | -0.7970 | -0.1452 |
| 1450 | -0.7860 | -0.1992 |
| 1500 | -0.7840 | -0.1522 |
| 1510 | -0.7780 | -0.1512 |
| 1520 | -0.7560 | -0.1602 |
| 1530 | -0.7570 | -0.1702 |
| 1540 | -0.7570 | -0.2082 |
| 1550 | -0.7430 | -0.2752 |
| 1600 | -0.7400 | -0.3392 |
| 1610 | -0.7380 | -0.3922 |
| 1620 | -0.7430 | -0.4962 |
| 1630 | -0.7300 | -0.5432 |
| 1640 | -0.6950 | -0.5332 |
| 1650 | -0.6570 | -0.5362 |
| 1700 | -0.6490 | -0.5462 |
| 1710 | -0.6230 | -0.5422 |
| 1720 | -0.5990 | -0.5422 |
| 1730 | -0.5780 | -0.4622 |
| 1740 | -0.5540 | -0.4492 |
| 1750 | -0.5550 | -0.4732 |
| 1800 | -0.5450 | -0.4272 |
| 1810 | -0.5260 | -0.4352 |
| 1820 | -0.5370 | -0.4602 |
| 1830 | -0.5320 | -0.4602 |
| 1840 | -0.5330 | -0.5372 |
| 1850 | -0.5180 | -0.5222 |
| 1900 | -0.5160 | -0.5172 |

(Continued)

Table 9 (Concluded)

| Time CST | Water Surface Elevation, ft TG-12 | TG-13 |
|---|---|---|
| | 27 November 1988 (Continued) | |
| 1910 | -0.4900 | -0.5182 |
| 1920 | -0.4740 | -0.5492 |
| 1930 | -0.4670 | -0.5832 |
| 1940 | -0.4340 | -0.5742 |
| 1950 | -0.3980 | -0.5482 |
| 2000 | -0.3460 | -0.5152 |
| 2010 | -0.3050 | -0.4912 |
| 2020 | -0.2810 | -0.4552 |
| 2030 | -0.2390 | -0.3722 |
| 2040 | -0.2020 | -0.2912 |
| 2050 | -0.1750 | -0.2482 |
| 2100 | -0.1530 | -0.2472 |
| 2110 | -0.1280 | -0.2162 |
| 2120 | -0.1060 | -0.1542 |
| 2130 | -0.0990 | -0.1472 |
| 2140 | -0.0630 | -0.1252 |
| 2150 | -0.0550 | -0.1402 |
| 2200 | -0.0400 | -0.1342 |
| 2210 | -0.0190 | -0.0922 |
| 2220 | 0.0090 | -0.0682 |
| 2230 | 0.0360 | 0.0048 |
| 2240 | 0.0500 | 0.0198 |
| 2250 | 0.0760 | 0.0508 |
| 2300 | 0.1080 | 0.0828 |
| 2310 | 0.1210 | 0.1558 |
| 2320 | 0.1550 | 0.2248 |
| 2330 | 0.1610 | 0.2718 |
| 2340 | 0.1730 | 0.3528 |
| 2350 | 0.1750 | 0.3468 |
| | 28 November 1988 | |
| 0000 | 0.1770 | 0.4078 |

| Time CST | Water Surface Elevation, ft TG-12 | TG-13 |
|---|---|---|
| | 28 November 1988 (Continued) | |
| 0010 | 0.1830 | 0.4168 |
| 0020 | 0.1950 | 0.4048 |
| 0030 | 0.1940 | 0.3608 |
| 0040 | 0.1970 | 0.3348 |
| 0050 | 0.1820 | 0.3088 |
| 0100 | 0.1830 | 0.2858 |
| 0110 | 0.1860 | 0.2508 |
| 0120 | 0.1880 | 0.2638 |
| 0130 | 0.2140 | 0.2878 |
| 0140 | 0.1980 | 0.2788 |
| 0150 | 0.2110 | 0.3028 |
| 0200 | 0.2110 | 0.3138 |
| 0210 | 0.2240 | 0.3628 |
| 0220 | 0.2360 | 0.3968 |
| 0230 | 0.2390 | 0.4008 |
| 0240 | 0.2400 | 0.4058 |
| 0250 | 0.2350 | 0.3958 |
| 0300 | 0.2420 | 0.3968 |
| 0310 | 0.2470 | 0.3918 |
| 0320 | 0.2410 | 0.3698 |
| 0330 | 0.2360 | 0.2948 |
| 0340 | 0.2380 | 0.2318 |
| 0350 | 0.2280 | 0.2078 |
| 0400 | 0.2200 | 0.1738 |
| 0410 | 0.2210 | 0.1358 |
| 0420 | 0.2030 | 0.0588 |
| 0430 | 0.1820 | 0.0458 |
| 0440 | 0.1790 | 0.0448 |
| 0450 | 0.1570 | 0.0188 |
| 0500 | 0.1360 | -0.0332 |
| 0510 | 0.1140 | -0.0412 |

Table 10

Current Data Observed at Sta 1-A, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0732 | 3.0 | 2.8 | 282 |
| 0804 | 3.0 | 3.2 | 295 |
| 0848 | 3.0 | 3.0 | 312 |
| 0918 | 3.0 | 3.0 | 292 |
| 0949 | 3.0 | 2.9 | 285 |
| 1029 | 3.0 | 2.6 | 320 |
| 1103 | 3.0 | 2.4 | 305 |
| 1204 | 3.0 | 2.4 | 315 |
| 1304 | 3.0 | 1.5 | 305 |
| 1402 | 3.0 | 1.1 | 325 |
| 1504 | 3.0 | 0.3 | 125 |
| 1559 | 3.0 | 0.3 | 126 |
| | | Middepth | |
| 0731 | 19.4 | 3.3 | 282 |
| 0803 | 19.5 | 2.6 | 295 |
| 0847 | 18.7 | 3.2 | 310 |
| 0917 | 19.1 | 2.2 | 290 |
| 0948 | 19.5 | 2.6 | 280 |
| 1028 | 18.6 | 1.8 | 285 |
| 1102 | 19.3 | 1.7 | 268 |
| 1202 | 19.6 | 1.4 | 330 |
| 1303 | 19.4 | 1.0 | 305 |
| 1401 | 18.5 | 0.6 | 295 |
| 1502 | 9.3 | 0.3 | 30 |
| 1557 | 9.0 | 0.6 | 124 |
| | | Bottom† | |
| 0730 | 36.8 | 1.4 | 280 |
| 0801 | 37.1 | 1.2 | 295 |
| 0845 | 35.5 | 1.5 | 310 |
| 0916 | 36.3 | 1.6 | 290 |
| 0947 | 37.0 | 1.1 | 270 |
| 1027 | 35.3 | 1.0 | 290 |
| 1100 | 36.7 | 1.0 | 260 |
| 1200 | 37.3 | 0.9 | 360 |
| 1300 | 36.9 | 0.3 | 260 |
| 1400 | 34.9 | 0.6 | 135 |
| 1500 | 16.6 | 0.1 | 145 |
| 1555 | 16.0 | 0.4 | 35 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 11

Current Data Observed at Sta 1-B, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0812 | 3.0 | 3.4 | 309 |
| 0854 | 3.0 | 3.2 | 310 |
| 0926 | 3.0 | 3.2 | 290 |
| 1004 | 3.0 | 3.2 | 300 |
| 1037 | 3.0 | 3.1 | 310 |
| 1109 | 3.0 | 3.2 | 290 |
| 1211 | 3.0 | 2.8 | 310 |
| 1310 | 3.0 | 2.1 | 308 |
| 1408 | 3.0 | 1.5 | 328 |
| 1511 | 3.0 | 0.8 | 322 |
| 1606 | 3.0 | 0.5 | 20 |
| | Middepth | | |
| 0811 | 23.2 | 3.6 | 310 |
| 0853 | 23.0 | 3.6 | 309 |
| 0925 | 23.1 | 3.2 | 280 |
| 1001 | 23.5 | 3.0 | 300 |
| 1035 | 23.0 | 2.9 | 280 |
| 1108 | 17.8 | 2.5 | 290 |
| 1210 | 22.8 | 2.3 | 340 |
| 1308 | 22.6 | 1.4 | 312 |
| 1407 | 22.6 | 0.6 | 310 |
| 1510 | 21.2 | 0.5 | 280 |
| 1605 | 22.5 | 0.9 | 246 |
| | Bottom† | | |
| 0810 | 44.3 | 1.2 | 320 |
| 0852 | 44.0 | 1.0 | 304 |
| 0924 | 44.2 | 0.6 | 252 |
| 0951 | 45.8 | 1.1 | 280 |
| 1034 | 44.0 | 1.1 | 270 |
| 1107 | 33.7 | 0.7 | 270 |
| 1213 | 43.7 | 0.5 | 60 |
| 1307 | 43.2 | 0.6 | 60 |
| 1406 | 43.3 | 0.5 | 135 |
| 1508 | 42.3 | 2.5 | 302 |
| 1603 | 43.1 | 0.2 | 270 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 12

Current Data Observed at Sta 1-C, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0743 | 3.0 | 1.6 | 288 |
| 0820 | 3.0 | 2.1 | 230 |
| 0900 | 3.0 | 2.3 | 308 |
| 0932 | 3.0 | 2.7 | 300 |
| 1010 | 3.0 | 2.6 | 310 |
| 1044 | 3.0 | 2.5 | 290 |
| 1115 | 3.0 | 2.5 | 315 |
| 1218 | 3.0 | 1.9 | 310 |
| 1319 | 3.0 | 1.5 | 308 |
| 1414 | 3.0 | 1.0 | 330 |
| 1517 | 3.0 | 0.5 | 300 |
| 1613 | 3.0 | 0.3 | 130 |
| | | Middepth | |
| 0742 | 18.2 | 1.2 | 288 |
| 0818 | 20.2 | 2.9 | 310 |
| 0859 | 18.1 | 2.4 | 309 |
| 0931 | 17.1 | 2.3 | 295 |
| 1010 | 18.2 | 2.3 | 295 |
| 1043 | 16.5 | 2.1 | 290 |
| 1114 | 19.8 | 1.4 | 330 |
| 1216 | 18.1 | 0.8 | 345 |
| 1318 | 18.7 | 1.0 | 315 |
| 1413 | 20.0 | 0.9 | 328 |
| 1516 | 15.9 | 0.6 | 245 |
| 1611 | 17.5 | 0.3 | 130 |
| | | Bottom† | |
| 0740 | 34.4 | 0.8 | 290 |
| 0816 | 38.7 | 0.6 | 10 |
| 0858 | 34.3 | 0.8 | 320 |
| 0930 | 32.2 | 1.0 | 282 |
| 1009 | 34.5 | 0.5 | 360 |
| 1042 | 31.0 | 1.5 | 275 |
| 1113 | 37.7 | 0.2 | 60 |
| 1215 | 34.2 | 0.5 | 330 |
| 1315 | 35.4 | 0.1 | 270 |
| 1412 | 38.0 | 0.5 | 330 |
| 1514 | 29.8 | 0.5 | 175 |
| 1610 | 25.0 | 1.1 | 142 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 13

Current Data Observed at Sta 1-X, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0835 | 3.0 | 0.8 | 320 |
| 0905 | 3.0 | 2.1 | 320 |
| 0939 | 3.0 | 1.5 | 320 |
| 1019 | 3.0 | 1.6 | 300 |
| | Middepth | | |
| | (No current data collected at this depth) | | |
| | Bottom† | | |
| 0904 | 11.0 | 1.2 | 310 |
| 0938 | 11.0 | 1.1 | 320 |
| 1018 | 11.0 | 0.7 | 285 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 14

Current Data Observed at Sta 2-A, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0735 | 3.0 | 1.4 | 20 |
| 0817 | 3.0 | 1.8 | 20 |
| 0846 | 3.0 | 1.8 | 28 |
| 0916 | 3.0 | 1.7 | 24 |
| 0947 | 3.0 | 2.1 | 30 |
| 1023 | 3.0 | 2.1 | 30 |
| 1116 | 3.0 | 2.0 | 32 |
| 1218 | 3.0 | 1.7 | 30 |
| 1319 | 3.0 | 1.5 | 32 |
| 1418 | 3.0 | 0.9 | 38 |
| 1517 | 3.0 | 1.2 | 212 |
| 1549 | 3.0 | 1.4 | 210 |
| | Middepth | | |
| 0734 | 5.4 | 1.6 | 18 |
| 0816 | 5.2 | 1.8 | 8 |
| 0845 | 5.8 | 1.8 | 18 |
| 0915 | 5.0 | 1.8 | 22 |
| 0946 | 5.5 | 1.9 | 36 |
| 1022 | 5.5 | 2.2 | 20 |
| 1115 | 6.2 | 1.9 | 22 |
| 1217 | 5.5 | 1.6 | 28 |
| 1318 | 5.5 | 1.6 | 28 |
| 1417 | 5.0 | 1.1 | 30 |
| 1516 | 6.1 | 1.2 | 208 |
| 1548 | 6.1 | 1.5 | 208 |
| | Bottom† | | |
| 0733 | 8.8 | 0.9 | 22 |
| 0815 | 8.4 | 1.1 | 6 |
| 0844 | 9.6 | 1.0 | 358 |
| 0914 | 8.0 | 1.5 | 30 |
| 0945 | 9.0 | 1.3 | 40 |
| 1021 | 9.0 | 1.9 | 30 |
| 1114 | 10.5 | 1.2 | 30 |
| 1216 | 9.0 | 1.4 | 28 |
| 1317 | 9.0 | 1.1 | 22 |
| 1416 | 8.0 | 0.7 | 2 |
| 1515 | 10.2 | 1.1 | 212 |
| 1547 | 10.2 | 1.2 | 210 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 15

Current Data Observed at Sta 2-B, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0719 | 3.0 | 1.2 | 300 |
| 0800 | 3.0 | 1.4 | 308 |
| 0832 | 3.0 | 1.2 | 304 |
| 0902 | 3.0 | 1.5 | 290 |
| 0933 | 3.0 | 1.7 | 306 |
| 1004 | 3.0 | 1.5 | 294 |
| 1102 | 3.0 | 1.9 | 308 |
| 1203 | 3.0 | 1.6 | 304 |
| 1303 | 3.0 | 1.7 | 300 |
| 1404 | 3.0 | 1.0 | 294 |
| 1502 | 3.0 | 0.5 | 290 |
| 1532 | 3.0 | 0.4 | 266 |
| | Middepth | | |
| 0717 | 17.8 | 1.1 | 294 |
| 0759 | 16.5 | 1.3 | 298 |
| 0831 | 18.3 | 1.5 | 284 |
| 0901 | 18.7 | 1.7 | 288 |
| 0932 | 19.1 | 2.1 | 288 |
| 1003 | 18.7 | 1.4 | 290 |
| 1101 | 19.2 | 1.9 | 302 |
| 1202 | 19.1 | 1.6 | 300 |
| 1302 | 18.8 | 1.7 | 296 |
| 1403 | 18.2 | 1.7 | 290 |
| 1501 | 11.4 | 0.6 | 306 |
| 1531 | 14.2 | 1.0 | 290 |
| | Bottom† | | |
| 0714 | 33.6 | 0.4 | 234 |
| 0758 | 31.0 | 0.2 | 318 |
| 0830 | 34.6 | 0.6 | 222 |
| 0900 | 35.4 | 0.4 | 186 |
| 0931 | 36.2 | 0.2 | 244 |
| 1002 | 35.4 | 0.4 | 102 |
| 1100 | 36.4 | 1.0 | 300 |
| 1201 | 36.2 | 0.7 | 254 |
| 1301 | 35.6 | 0.5 | 240 |
| 1402 | 34.3 | 0.2 | 242 |
| 1500 | 20.8 | 0.4 | 314 |
| 1530 | 26.5 | 0.7 | 282 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 16

Current Data Observed at Sta 2-C, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0726 | 3.0 | 1.4 | 306 |
| 0809 | 3.0 | 1.3 | 308 |
| 0838 | 3.0 | 1.9 | 302 |
| 0907 | 3.0 | 1.7 | 302 |
| 0939 | 3.0 | 1.4 | 308 |
| 1015 | 3.0 | 1.7 | 302 |
| 1109 | 3.0 | 1.8 | 306 |
| 1211 | 3.0 | 2.2 | 300 |
| 1312 | 3.0 | 2.0 | 304 |
| 1410 | 3.0 | 1.8 | 304 |
| 1508 | 3.0 | 1.3 | 292 |
| 1540 | 3.0 | 0.9 | 300 |
| | | Middepth | |
| 0725 | 19.3 | 0.8 | 304 |
| 0808 | 17.0 | 0.9 | 300 |
| 0837 | 16.7 | 1.0 | 306 |
| 0906 | 18.8 | 1.4 | 306 |
| 0938 | 18.6 | 1.7 | 302 |
| 1014 | 17.8 | 1.7 | 296 |
| 1108 | 17.8 | 2.3 | 300 |
| 1210 | 17.7 | 1.7 | 300 |
| 1311 | 18.3 | 1.5 | 308 |
| 1409 | 18.8 | 1.8 | 302 |
| 1507 | 17.2 | 1.4 | 302 |
| 1539 | 17.1 | 0.6 | 294 |
| | | Bottom† | |
| 0724 | 36.6 | 0.4 | 340 |
| 0807 | 32.0 | 0.4 | 310 |
| 0836 | 31.4 | 0.2 | 76 |
| 0905 | 35.6 | 0.1 | 36 |
| 0937 | 35.2 | 0.5 | 20 |
| 1013 | 33.5 | 0.5 | 164 |
| 1107 | 33.6 | 0.2 | 18 |
| 1209 | 33.4 | 0.4 | 300 |
| 1310 | 34.7 | 0.3 | 306 |
| 1408 | 35.3 | 0.3 | 296 |
| 1506 | 32.3 | 0.2 | 312 |
| 1538 | 32.2 | 0.6 | 230 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 17

Current Data Observed at Sta 2-X, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0854 | 3.0 | 0.3 | 150 |
| 0922 | 3.0 | 0.3 | 250 |
| 0953 | 3.0 | 0.4 | 186 |
| | Middepth | | |
| 0853 | 4.1 | 0.3 | 150 |
| 0921 | 4.2 | 0.3 | 274 |
| 0952 | 4.0 | 0.4 | 190 |
| | Bottom† | | |
| 0853 | 6.2 | 0.3 | 162 |
| 0921 | 6.4 | 0.2 | 270 |
| 0951 | 6.0 | 0.4 | 180 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 18

Current Data Observed at Sta 3-A, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0706 | 3.0 | 1.7 | 246 |
| 0805 | 3.0 | 0.5 | 290 |
| 0840 | 3.0 | 0.4 | 351 |
| 0917 | 3.0 | 0.5 | 25 |
| 0952 | 3.0 | 1.1 | 28 |
| 1017 | 3.0 | 0.9 | 32 |
| 1102 | 3.0 | 1.1 | 24 |
| 1202 | 3.0 | 1.4 | 30 |
| 1302 | 3.0 | 1.8 | 30 |
| 1403 | 3.0 | 1.8 | 35 |
| 1502 | 3.0 | 1.3 | 35 |
| 1534 | 3.0 | 0.6 | 39 |
| | Middepth | | |
| 0705 | 13.0 | 0.6 | 280 |
| 0804 | 14.8 | 0.4 | 348 |
| 0839 | 15.0 | 0.5 | 300 |
| 0916 | 16.5 | 0.4 | 65 |
| 0951 | 12.8 | 0.8 | 40 |
| 1016 | 14.0 | 0.8 | 48 |
| 1101 | 13.0 | 1.0 | 50 |
| 1201 | 13.0 | 1.4 | 46 |
| 1301 | 13.0 | 1.8 | 46 |
| 1401 | 14.0 | 1.6 | 29 |
| 1501 | 14.5 | 1.0 | 45 |
| 1533 | 14.8 | 0.6 | 60 |
| | Bottom† | | |
| 0704 | 24.0 | 0.2 | 326 |
| 0803 | 27.5 | 0.1 | 5 |
| 0838 | 28.0 | 0.3 | 245 |
| 0915 | 29.0 | 0.3 | 40 |
| 0950 | 23.5 | 0.4 | 52 |
| 1015 | 26.0 | 0.3 | 88 |
| 1100 | 24.0 | 0.2 | 110 |
| 1200 | 24.0 | 1.2 | 48 |
| 1300 | 24.0 | 1.2 | 44 |
| 1400 | 26.0 | 1.1 | 47 |
| 1500 | 27.0 | 0.6 | 84 |
| 1532 | 27.5 | 0.4 | 35 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 19

Current Data Observed at Sta 3-B, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0717 | 3.0 | 1.7 | 241 |
| 0808 | 3.0 | 1.5 | 235 |
| 0846 | 3.0 | 0.3 | 332 |
| 0922 | 3.0 | 0.4 | 10 |
| 0957 | 3.0 | 0.9 | 70 |
| 1024 | 3.0 | 1.0 | 44 |
| 1107 | 3.0 | 1.2 | 37 |
| 1208 | 3.0 | 1.4 | 40 |
| 1308 | 3.0 | 1.4 | 52 |
| 1408 | 3.0 | 1.5 | 50 |
| 1507 | 3.0 | 1.2 | 37 |
| 1539 | 3.0 | 0.6 | 40 |
| | Middepth | | |
| 0715 | 9.2 | 0.8 | 210 |
| 0807 | 9.0 | 1.1 | 230 |
| 0845 | 9.3 | 0.8 | 268 |
| 0921 | 10.2 | 0.2 | 264 |
| 0956 | 8.4 | 0.6 | 56 |
| 1023 | 8.7 | 0.8 | 46 |
| 1106 | 8.8 | 1.1 | 47 |
| 1207 | 8.5 | 1.6 | 44 |
| 1307 | 8.8 | 1.6 | 46 |
| 1407 | 8.8 | 1.6 | 45 |
| 1506 | 8.8 | 1.0 | 44 |
| 1538 | 9.0 | 0.6 | 36 |
| | Bottom† | | |
| 0714 | 16.3 | 0.2 | 64 |
| 0806 | 16.0 | 0.2 | 135 |
| 0844 | 16.5 | 0.4 | 254 |
| 0920 | 18.3 | 0.3 | 283 |
| 0955 | 14.8 | 0.7 | 12 |
| 1022 | 15.4 | 0.3 | 36 |
| 1105 | 15.5 | 0.8 | 48 |
| 1206 | 15.0 | 1.3 | 58 |
| 1306 | 15.5 | 1.1 | 36 |
| 1406 | 15.5 | 1.3 | 32 |
| 1505 | 15.5 | 0.9 | 51 |
| 1537 | 16.0 | 0.5 | 42 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 20

Current Data Observed at Sta 3-C, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0728 | 3.0 | 0.6 | 342 |
| 0817 | 3.0 | 1.0 | 303 |
| 0856 | 3.0 | 1.7 | 330 |
| 0930 | 3.0 | 2.0 | 326 |
| 1005 | 3.0 | 2.2 | 326 |
| 1030 | 3.0 | 2.5 | 324 |
| 1116 | 3.0 | 2.4 | 321 |
| 1218 | 3.0 | 2.4 | 326 |
| 1316 | 3.0 | 2.6 | 325 |
| 1417 | 3.0 | 2.1 | 320 |
| 1515 | 3.0 | 1.6 | 320 |
| 1548 | 3.0 | 1.3 | 319 |
| | | Middepth | |
| 0727 | 18.3 | 0.3 | 306 |
| 0816 | 19.0 | 0.6 | 307 |
| 0855 | 16.0 | 1.5 | 333 |
| 0929 | 19.1 | 1.6 | 322 |
| 1004 | 18.3 | 2.0 | 320 |
| 1029 | 18.5 | 1.9 | 320 |
| 1115 | 18.3 | 2.0 | 324 |
| 1217 | 18.0 | 2.3 | 320 |
| 1315 | 18.0 | 2.3 | 322 |
| 1416 | 18.3 | 2.3 | 319 |
| 1514 | 18.4 | 2.0 | 318 |
| 1547 | 18.0 | 1.3 | 315 |
| | | Bottom† | |
| 0726 | 34.5 | 0.3 | 325 |
| 0815 | 36.0 | 0.4 | 359 |
| 0854 | 30.0 | 0.7 | 340 |
| 0928 | 36.2 | 0.5 | 340 |
| 1003 | 34.5 | 0.3 | 344 |
| 1028 | 35.0 | 0.3 | 343 |
| 1114 | 34.5 | 0.4 | 328 |
| 1216 | 34.1 | 0.6 | 326 |
| 1314 | 34.1 | 0.3 | 300 |
| 1415 | 34.5 | 0.4 | 308 |
| 1513 | 34.8 | 0.2 | 340 |
| 1546 | 34.0 | 0.4 | 303 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 21

Current Data Observed at Sta 3-D, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0736 | 3.0 | 0.7 | 310 |
| 0822 | 3.0 | 0.9 | 298 |
| 0900 | 3.0 | 1.4 | 330 |
| 0930 | 3.0 | 2.3 | 330 |
| 1010 | 3.0 | 2.4 | 327 |
| 1037 | 3.0 | 2.7 | 345 |
| 1121 | 3.0 | 2.5 | 323 |
| 1224 | 3.0 | 2.6 | 325 |
| 1323 | 3.0 | 2.4 | 323 |
| 1422 | 3.0 | 2.1 | 325 |
| 1520 | 3.0 | 1.7 | 322 |
| 1553 | 3.0 | 1.2 | 330 |
| | Middepth | | |
| 0735 | 11.5 | 0.7 | 313 |
| 0821 | 18.8 | 0.5 | 270 |
| 0859 | 15.5 | 1.2 | 320 |
| 0935 | 19.5 | 1.6 | 322 |
| 1009 | 19.3 | 2.0 | 316 |
| 1036 | 19.0 | 1.9 | 344 |
| 1120 | 19.3 | 1.7 | 322 |
| 1223 | 19.2 | 1.9 | 327 |
| 1322 | 19.3 | 2.0 | 321 |
| 1421 | 19.0 | 1.9 | 320 |
| 1519 | 18.3 | 1.6 | 317 |
| 1552 | 18.3 | 1.6 | 316 |
| | Bottom† | | |
| 0734 | 21.0 | 0.1 | 302 |
| 0820 | 35.5 | 0.4 | 240 |
| 0858 | 29.0 | 0.8 | 329 |
| 0934 | 37.0 | 0.5 | 345 |
| 1008 | 36.5 | 0.5 | 341 |
| 1035 | 36.0 | 0.5 | 342 |
| 1119 | 36.5 | 0.4 | 310 |
| 1222 | 36.4 | 0.3 | 355 |
| 1321 | 36.5 | 0.2 | 334 |
| 1422 | 36.0 | 0.2 | 342 |
| 1518 | 34.5 | 0.4 | 330 |
| 1551 | 34.5 | 0.2 | 325 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 22

Current Data Observed at Sta 3-X, 26 October 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0833 | 3.0 | 0.6 | 242 |
| 0910 | 3.0 | 0.5 | 258 |
| 0945 | 3.0 | 0.6 | 172 |
| | Middepth | | |
| | (No current data collected at this depth) | | |
| | Bottom† | | |
| 0832 | 5.8 | 0.6 | 265 |
| 0909 | 6.0 | 0.4 | 265 |
| 0944 | 5.5 | 0.4 | 218 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 23

Current Data Observed at Sta 1-A, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0734 | 3.0 | 2.4 | 300 |
| 0810 | 3.0 | 2.5 | 290 |
| 0904 | 3.0 | 2.3 | 290 |
| 1005 | 3.0 | 2.0 | 290 |
| 1104 | 3.0 | 1.7 | 285 |
| 1203 | 3.0 | 1.2 | 290 |
| 1307 | 3.0 | 1.0 | 300 |
| 1404 | 3.0 | 0.6 | 340 |
| 1504 | 3.0 | 0.3 | 160 |
| 1606 | 3.0 | 0.6 | 135 |
| | Middepth | | |
| 0732 | 19.3 | 2.2 | 284 |
| 0808 | 19.9 | 2.5 | 290 |
| 0903 | 19.5 | 2.0 | 290 |
| 1002 | 19.1 | 1.5 | 290 |
| 1102 | 19.6 | 1.5 | 295 |
| 1202 | 16.4 | 1.0 | 270 |
| 1305 | 10.1 | 0.8 | 285 |
| 1402 | 8.5 | 0.7 | 285 |
| 1503 | 11.0 | 0.5 | 160 |
| 1604 | 11.7 | 0.4 | 130 |
| | Bottom | | |
| 0730 | 36.7 | 1.2 | 278 |
| 0806 | 36.8 | 1.2 | 270 |
| 0901 | 37.1 | 1.2 | 270 |
| 1001 | 36.2 | 0.8 | 270 |
| 1100 | 37.2 | 0.4 | 240 |
| 1200 | 30.8 | 0.5 | 260 |
| 1304 | 18.2 | 0.7 | 300 |
| 1400 | 15.0 | 0.3 | 300 |
| 1501 | 20.0 | 0.3 | 155 |
| 1601 | 21.4 | 0.6 | 130 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 24

Current Data Observed at Sta 1-B, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0744 | 3.0 | 2.7 | 287 |
| 0818 | 3.0 | 2.5 | 290 |
| 0915 | 3.0 | 3.0 | 285 |
| 1013 | 3.0 | 2.5 | 285 |
| 1112 | 3.0 | 1.9 | 285 |
| 1210 | 3.0 | 1.4 | 300 |
| 1316 | 3.0 | 1.0 | 305 |
| 1411 | 3.0 | 0.8 | 280 |
| 1513 | 3.0 | 0.3 | 160 |
| 1618 | 3.0 | 0.6 | 120 |
| | Middepth | | |
| 0742 | 23.5 | 2.4 | 286 |
| 0817 | 23.1 | 2.5 | 290 |
| 0913 | 23.3 | 2.6 | 290 |
| 1011 | 23.1 | 2.3 | 290 |
| 1111 | 22.8 | 2.0 | 285 |
| 1208 | 22.7 | 1.5 | 290 |
| 1314 | 22.7 | 1.0 | 290 |
| 1410 | 23.0 | 1.0 | 270 |
| 1511 | 22.2 | 0.7 | 315 |
| 1616 | 22.8 | 0.6 | 120 |
| | Bottom† | | |
| 0741 | 45.0 | 1.1 | 278 |
| 0815 | 44.3 | 1.0 | 270 |
| 0911 | 44.6 | 0.8 | 260 |
| 1009 | 44.2 | 1.0 | 270 |
| 1109 | 43.5 | 0.5 | 230 |
| 1207 | 43.5 | 0.5 | 240 |
| 1312 | 43.4 | 0.5 | 230 |
| 1407 | [illegible] 0 | 0.6 | 280 |
| 1508 | 42.3 | 0.5 | 245 |
| 1614 | 43.6 | 0.3 | 170 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 25

Current Data Observed at Sta 1-C, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0754 | 3.0 | 1.8 | 300 |
| 0827 | 3.0 | 2.2 | 290 |
| 0922 | 3.0 | 2.0 | 295 |
| 1020 | 3.0 | 1.4 | 290 |
| 1121 | 3.0 | 1.5 | 290 |
| 1219 | 3.0 | 1.3 | 287 |
| 1326 | 3.0 | 1.2 | 300 |
| 1419 | 3.0 | 1.0 | 310 |
| 1522 | 3.0 | 0.4 | 175 |
| 1630 | 3.0 | 0.6 | 120 |
| | Middepth | | |
| 0752 | 18.8 | 2.0 | 290 |
| 0825 | 18.6 | 2.2 | 290 |
| 0921 | 19.7 | 1.8 | 292 |
| 1019 | 17.4 | 1.6 | 280 |
| 1119 | 18.6 | 1.2 | 280 |
| 1217 | 18.1 | 1.0 | 290 |
| 1323 | 18.6 | 0.8 | 285 |
| 1417 | 19.2 | 0.7 | 230 |
| 1520 | 19.9 | 0.4 | 155 |
| 1628 | 22.8 | 0.6 | 120 |
| | Bottom† | | |
| 0750 | 35.6 | 0.4 | 360 |
| 0824 | 35.3 | 1.2 | 270 |
| 0920 | 37.4 | 0.5 | 290 |
| 1017 | 32.8 | 0.9 | 270 |
| 1118 | 35.2 | 0.8 | 275 |
| 1215 | 34.2 | 0.8 | 270 |
| 1321 | 35.2 | 0.2 | 195 |
| 1415 | 36.5 | 0.3 | 205 |
| 1518 | 37.8 | 0.2 | 155 |
| 1626 | 43.6 | 0.3 | 170 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 26

Current Data Observed at Sta 2-A, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0744 | 2.0 | 1.6 | 25 |
| 0824 | 2.0 | 1.8 | 30 |
| 0924 | 2.0 | 1.4 | 30 |
| 1022 | 2.0 | 1.6 | 30 |
| 1124 | 2.0 | 1.4 | 30 |
| 1228 | 3.0 | 0.9 | 30 |
| 1324 | 2.0 | 0.7 | 25 |
| 1427 | 2.0 | 0.2 | 240 |
| 1519 | 2.0 | 1.0 | 190 |
| 1624 | 2.0 | 1.3 | 210 |
| | Middepth | | |
| 0742 | 4.0 | 1.3 | 25 |
| 0822 | 5.0 | 1.5 | 20 |
| 0922 | 3.5 | 1.3 | 25 |
| 1020 | 3.5 | 1.4 | 32 |
| 1123 | 3.5 | 1.2 | 30 |
| 1226 | 5.0 | 0.9 | 25 |
| 1322 | 3.5 | 0.7 | 20 |
| 1425 | 3.5 | 0.2 | 230 |
| 1517 | 4.0 | 1.2 | 210 |
| 1622 | 5.0 | 1.2 | 210 |
| | Bottom† | | |
| 0740 | 6.0 | 1.4 | 10 |
| 0820 | 8.0 | 1.1 | 10 |
| 0920 | 5.5 | 0.8 | 50 |
| 1018 | 6.0 | 1.1 | 30 |
| 1121 | 5.5 | 1.2 | 40 |
| 1224 | 8.0 | 0.5 | 25 |
| 1320 | 5.5 | 0.5 | 25 |
| 1423 | 6.0 | 0.1 | 250 |
| 1515 | 6.5 | 0.5 | 160 |
| 1620 | 9.0 | 0.6 | 200 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 27

Current Data Observed at Sta 2-B, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0726 | 3.0 | 1.1 | 290 |
| 0804 | 3.0 | 1.0 | 300 |
| 0904 | 3.0 | 1.4 | 295 |
| 1004 | 3.0 | 0.6 | 295 |
| 1104 | 3.0 | 0.4 | 295 |
| 1206 | 3.0 | 0.3 | 300 |
| 1304 | 3.0 | 0.2 | 240 |
| 1404 | 3.0 | 0.3 | 315 |
| 1504 | 3.0 | 0.8 | 140 |
| 1604 | 3.0 | 0.6 | 120 |
| | Middepth | | |
| 0724 | 11.0 | 1.2 | 290 |
| 0802 | 10.5 | 1.1 | 290 |
| 0902 | 10.5 | 1.2 | 300 |
| 1002 | 11.0 | 1.0 | 300 |
| 1102 | 12.5 | 1.0 | 300 |
| 1204 | 11.0 | 1.3 | 300 |
| 1302 | 11.0 | 1.1 | 300 |
| 1402 | 13.5 | 1.1 | 300 |
| 1502 | 17.0 | 1.0 | 300 |
| 1602 | 17.0 | 0.4 | 300 |
| | Bottom† | | |
| 0722 | 22.0 | 0.9 | 290 |
| 0800 | 22.0 | 0.9 | 310 |
| 0900 | 21.0 | 0.7 | 300 |
| 1000 | 22.0 | 0.4 | 290 |
| 1100 | 25.0 | 0.8 | 300 |
| 1202 | 22.0 | 1.0 | 310 |
| 1300 | 22.0 | 0.4 | 320 |
| 1400 | 22.7 | 0.5 | 310 |
| 1500 | 34.0 | 0.3 | 250 |
| 1600 | 34.0 | 0.0 | 0 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 28

Current Data Observed at Sta 2-C, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0734 | 3.0 | 1.2 | 290 |
| 0814 | 3.0 | 1.2 | 305 |
| 0910 | 3.0 | 1.0 | 295 |
| 1012 | 3.0 | 1.1 | 290 |
| 1110 | 3.0 | 1.0 | 290 |
| 1214 | 3.0 | 1.1 | 300 |
| 1315 | 3.0 | 0.8 | 290 |
| 1416 | 3.0 | 0.4 | 215 |
| 1511 | 3.0 | 0.3 | 230 |
| 1614 | 3.0 | 0.5 | 90 |
| | | Middepth | |
| 0732 | 13.5 | 1.5 | 290 |
| 0812 | 17.5 | 1.5 | 300 |
| 0908 | 13.0 | 1.9 | 295 |
| 1010 | 16.5 | 1.4 | 295 |
| 1108 | 15.0 | 0.6 | 305 |
| 1212 | 17.5 | 1.7 | 300 |
| 1313 | 17.5 | 1.8 | 300 |
| 1414 | 18.0 | 1.4 | 295 |
| 1509 | 16.0 | 0.8 | 280 |
| 1612 | 17.0 | 0.3 | 290 |
| | | Bottom† | |
| 0730 | 27.0 | 1.0 | 270 |
| 0810 | 35.0 | 0.8 | 290 |
| 0906 | 26.0 | 1.1 | 280 |
| 1008 | 23.0 | 1.1 | 290 |
| 1106 | 30.0 | 1.2 | 290 |
| 1210 | 35.0 | 0.9 | 310 |
| 1311 | 35.8 | 0.7 | 290 |
| 1412 | 36.0 | 0.9 | 290 |
| 1507 | 32.0 | 1.0 | 285 |
| 1610 | 34.0 | 0.1 | 30 |

* Direction from true north from which the current is flowing.

** Surface measurement obtained at 3.0 ft below top of water surface.

† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 29

Current Data Observed at Sta 3-A, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0706 | 3.0 | 1.4 | 40 |
| 0802 | 3.0 | 1.8 | 42 |
| 0904 | 3.0 | 1.7 | 40 |
| 0949 | 3.0 | 1.2 | 40 |
| 1022 | 3.0 | 1.3 | 30 |
| 1103 | 3.0 | 1.4 | 18 |
| 1202 | 3.0 | 1.0 | 44 |
| 1302 | 3.0 | 1.0 | 34 |
| 1402 | 3.0 | 1.2 | 30 |
| 1502 | 3.0 | 1.1 | 30 |
| 1602 | 3.0 | 1.1 | 32 |
| | Middepth | | |
| 0705 | 13.1 | 1.3 | 20 |
| 0801 | 13.1 | 1.5 | 24 |
| 0903 | 12.9 | 1.8 | 34 |
| 0948 | 12.9 | 1.4 | 22 |
| 1021 | 12.8 | 1.5 | 30 |
| 1102 | 13.0 | 1.4 | 30 |
| 1201 | 12.9 | 1.0 | 34 |
| 1301 | 12.7 | 0.9 | 10 |
| 1401 | 12.8 | 1.0 | 18 |
| 1501 | 12.6 | 1.1 | 18 |
| 1601 | 12.7 | 1.1 | 12 |
| | Bottom† | | |
| 0704 | 24.2 | 0.5 | 38 |
| 0800 | 24.2 | 0.4 | 44 |
| 0900 | 23.8 | 0.4 | 320 |
| 0946 | 23.8 | 0.3 | 314 |
| 1020 | 23.6 | 0.4 | 302 |
| 1100 | 24.0 | 0.3 | 264 |
| 1200 | 23.8 | 0.2 | 236 |
| 1300 | 23.4 | 0.3 | 326 |
| 1400 | 23.6 | 0.4 | 320 |
| 1500 | 23.2 | 0.3 | 326 |
| 1600 | 23.4 | 0.2 | 310 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 30

Current Data Observed at Sta 3-B, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0712 | 3.0 | 1.4 | 44 |
| 0808 | 3.0 | 1.8 | 44 |
| 0908 | 3.0 | 1.8 | 36 |
| 0953 | 3.0 | 1.3 | 34 |
| 1027 | 3.0 | 1.2 | 40 |
| 1108 | 3.0 | 1.5 | 30 |
| 1207 | 3.0 | 0.9 | 50 |
| 1308 | 3.0 | 0.9 | 30 |
| 1408 | 3.0 | 1.0 | 32 |
| 1511 | 3.0 | 1.0 | 30 |
| 1607 | 3.0 | 1.1 | 40 |
| | Middepth | | |
| 0711 | 8.7 | 1.4 | 42 |
| 0807 | 8.8 | 1.8 | 36 |
| 0907 | 8.3 | 1.8 | 34 |
| 0952 | 8.5 | 1.2 | 36 |
| 1026 | 8.6 | 1.3 | 30 |
| 1107 | 8.7 | 1.3 | 28 |
| 1206 | 8.4 | 0.8 | 48 |
| 1307 | 8.5 | 0.8 | 22 |
| 1407 | 8.4 | 1.1 | 30 |
| 1509 | 8.6 | 1.1 | 22 |
| 1606 | 8.6 | 1.1 | 24 |
| | Bottom† | | |
| 0710 | 15.4 | 0.8 | 38 |
| 0806 | 15.6 | 1.4 | 40 |
| 0906 | 14.6 | 1.6 | 42 |
| 0951 | 15.0 | 1.2 | 32 |
| 1025 | 15.2 | 1.2 | 34 |
| 1106 | 15.4 | 1.4 | 26 |
| 1205 | 14.8 | 0.7 | 42 |
| 1306 | 15.0 | 0.7 | 32 |
| 1406 | 14.8 | 0.9 | 34 |
| 1505 | 15.2 | 0.6 | 22 |
| 1605 | 15.2 | 1.1 | 22 |

* Direction from true north from which the current is flowing.

** Surface measurement obtained at 3.0 ft below top of water surface.

† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 31

Current Data Observed at Sta 3-C, 11 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0730 | 3.0 | 1.4 | 324 |
| 0817 | 3.0 | 1.3 | 316 |
| 0916 | 3.0 | 1.4 | 318 |
| 1000 | 3.0 | 1.8 | 312 |
| 1036 | 3.0 | 1.9 | 316 |
| 1116 | 3.0 | 2.1 | 320 |
| 1217 | 3.0 | 1.9 | 312 |
| 1317 | 3.0 | 1.8 | 306 |
| 1417 | 3.0 | 1.3 | 306 |
| 1522 | 3.0 | 0.8 | 306 |
| 1617 | 3.0 | 0.7 | 308 |
| | Middepth | | |
| 0728 | 16.7 | 0.4 | 322 |
| 0816 | 16.8 | 0.6 | 334 |
| 0915 | 17.0 | 0.7 | 314 |
| 0959 | 16.8 | 0.6 | 322 |
| 1035 | 16.8 | 0.5 | 310 |
| 1115 | 16.9 | 0.5 | 326 |
| 1216 | 16.7 | 0.5 | 308 |
| 1316 | 16.9 | 1.1 | 320 |
| 1416 | 16.8 | 0.9 | 310 |
| 1520 | 17.3 | 0.8 | 318 |
| 1616 | 16.2 | 0.7 | 310 |
| | Bottom† | | |
| 0727 | 31.4 | 0.4 | 318 |
| 0815 | 31.6 | 0.6 | 290 |
| 0914 | 32.0 | 0.5 | 312 |
| 0958 | 31.6 | 0.4 | 302 |
| 1034 | 31.6 | 0.3 | 320 |
| 1114 | 31.8 | 0.3 | 340 |
| 1215 | 31.4 | 0.2 | 278 |
| 1315 | 31.8 | 0.2 | 280 |
| 1415 | 31.6 | 0.2 | 294 |
| 1518 | 32.6 | 0.3 | 260 |
| 1615 | 30.4 | 0.5 | 290 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 32

Current Data Observed at Sta 3-D, November 11, 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0737 | 3.0 | 2.0 | 330 |
| 0826 | 3.0 | 2.0 | 322 |
| 0922 | 3.0 | 2.0 | 316 |
| 1006 | 3.0 | 1.8 | 320 |
| 1042 | 3.0 | 1.9 | 314 |
| 1122 | 3.0 | 2.1 | 328 |
| 1223 | 3.0 | 2.1 | 312 |
| 1323 | 3.0 | 1.5 | 314 |
| 1424 | 3.0 | 1.3 | 312 |
| 1536 | 3.0 | 1.0 | 296 |
| 1623 | 3.0 | 0.8 | 302 |
| | Middepth | | |
| 0736 | 19.5 | 0.6 | 322 |
| 0825 | 19.7 | 0.5 | 330 |
| 0921 | 19.2 | 0.6 | 320 |
| 1004 | 19.1 | 0.9 | 310 |
| 1041 | 19.1 | 0.8 | 320 |
| 1121 | 19.0 | 1.1 | 342 |
| 1222 | 19.2 | 1.1 | 322 |
| 1322 | 19.3 | 1.5 | 320 |
| 1423 | 19.2 | 1.4 | 320 |
| 1535 | 19.1 | 1.1 | 306 |
| 1622 | 19.6 | 1.2 | 300 |
| | Bottom† | | |
| 0734 | 37.8 | 0.4 | 320 |
| 0824 | 37.4 | 0.5 | 318 |
| 0921 | 36.4 | 0.5 | 280 |
| 1004 | 36.2 | 0.4 | 296 |
| 1040 | 36.2 | 0.7 | 300 |
| 1120 | 36.0 | 0.4 | 314 |
| 1221 | 36.4 | 0.2 | 272 |
| 1321 | 36.6 | 0.2 | 280 |
| 1422 | 36.4 | 0.4 | 294 |
| 1533 | 36.2 | 0.3 | 268 |
| 1621 | 37.2 | 0.5 | 262 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 33

Current Data Observed at Sta 1-A, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0745 | 3.0 | 1.4 | 320 |
| 0805 | 3.0 | 1.7 | 296 |
| 0904 | 3.0 | 1.7 | 292 |
| 1003 | 3.0 | 1.7 | 310 |
| 1103 | 3.0 | 1.8 | 298 |
| 1205 | 3.0 | 1.6 | 296 |
| 1304 | 3.0 | 1.4 | 290 |
| 1402 | 3.0 | 2.4 | 298 |
| 1503 | 3.0 | 1.6 | 294 |
| | | Middepth | |
| 0743 | 13.0 | 1.6 | 296 |
| 0804 | 16.5 | 1.5 | 302 |
| 0902 | 18.0 | 1.8 | 294 |
| 1002 | 17.2 | 1.7 | 312 |
| 1102 | 17.7 | 1.2 | 272 |
| 1204 | 10.0 | 1.2 | 282 |
| 1303 | 9.0 | 1.5 | 282 |
| 1401 | 9.7 | 1.5 | 284 |
| 1502 | 10.1 | 1.6 | 286 |
| | | Bottom† | |
| 0742 | 23.9 | 1.3 | 294 |
| 0803 | 31.0 | 0.4 | 296 |
| 0901 | 34.0 | 0.7 | 250 |
| 1001 | 32.5 | 0.3 | 270 |
| 1101 | 33.4 | 0.3 | 274 |
| 1203 | 28.0 | 0.4 | 310 |
| 1302 | 16.0 | 0.9 | 262 |
| 1400 | 17.4 | 0.7 | 274 |
| 1501 | 18.2 | 1.1 | 276 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 34

Current Data Observed at Sta 1-B, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0753 | 3.0 | 2.0 | 296 |
| 0811 | 3.0 | 2.1 | 294 |
| 0912 | 3.0 | 2.2 | 292 |
| 1008 | 3.0 | 2.0 | 294 |
| 1112 | 3.0 | 2.3 | 292 |
| 1210 | 3.0 | 2.4 | 286 |
| 1309 | 3.0 | 2.6 | 280 |
| 1406 | 3.0 | 2.1 | 292 |
| 1512 | 3.0 | 2.2 | 312 |
| | | Middepth | |
| 0751 | 23.2 | 2.1 | 300 |
| 0810 | 23.2 | 2.3 | 294 |
| 0911 | 23.4 | 2.8 | 290 |
| 1007 | 23.0 | 2.6 | 294 |
| 1111 | 22.5 | 2.4 | 282 |
| 1209 | 22.7 | 2.3 | 286 |
| 1308 | 22.6 | 2.2 | 282 |
| 1405 | 22.4 | 1.5 | 274 |
| 1511 | 21.7 | 1.1 | 296 |
| | | Bottom† | |
| 0750 | 44.5 | 1.0 | 302 |
| 0809 | 44.5 | 0.8 | 296 |
| 0910 | 44.7 | 0.7 | 254 |
| 1006 | 44.0 | 1.0 | 292 |
| 1110 | 43.0 | 1.1 | 264 |
| 1208 | 43.5 | 1.0 | 276 |
| 1307 | 43.1 | 1.0 | 274 |
| 1404 | 42.8 | 0.8 | 264 |
| 1510 | 41.4 | 0.7 | 294 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 35

Current Data Observed at Sta 1-C, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0758 | 3.0 | 1.4 | 296 |
| 0816 | 3.0 | 1.6 | 300 |
| 0918 | 3.0 | 1.8 | 294 |
| 1016 | 3.0 | 1.4 | 298 |
| 1118 | 3.0 | 2.1 | 290 |
| 1216 | 3.0 | 2.2 | 294 |
| 1315 | 3.0 | 2.0 | 292 |
| 1411 | 3.0 | 2.1 | 284 |
| 1520 | 3.0 | 1.9 | 288 |
| | Middepth | | |
| 0757 | 20.2 | 1.8 | 302 |
| 0815 | 20.0 | 1.8 | 304 |
| 0917 | 20.0 | 2.0 | 304 |
| 1015 | 19.0 | 1.5 | 304 |
| 1117 | 20.8 | 2.3 | 290 |
| 1215 | 21.0 | 2.2 | 284 |
| 1314 | 21.3 | 2.2 | 284 |
| 1410 | 21.0 | 1.3 | 290 |
| 1519 | 20.5 | 1.5 | 288 |
| | Bottom† | | |
| 0756 | 28.3 | 0.3 | 20 |
| 0814 | 38.0 | 0.3 | 22 |
| 0916 | 38.0 | 0.6 | 326 |
| 1014 | 36.0 | 0.9 | 322 |
| 1116 | 39.6 | 0.8 | 300 |
| 1214 | 40.1 | 0.9 | 268 |
| 1313 | 40.6 | 0.7 | 260 |
| 1409 | 40.1 | 0.4 | 268 |
| 1518 | 39.0 | 0.6 | 282 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 36

Current Data Observed at Sta 2-A, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0739 | 2.0 | 1.3 | 30 |
| 0819 | 2.0 | 1.1 | 30 |
| 0920 | 2.0 | 1.2 | 10 |
| 1020 | 2.0 | 1.2 | 30 |
| 1124 | 2.0 | 3.4 | 30 |
| 1226 | 2.0 | 3.2 | 30 |
| 1319 | 2.0 | 3.3 | 30 |
| 1419 | 2.0 | 3.1 | 30 |
| 1502 | 2.0 | 3.6 | 25 |
| | Middepth | | |
| 0737 | 4.5 | 1.2 | 25 |
| 0817 | 4.0 | 0.7 | 30 |
| 0918 | 4.5 | 1.1 | 20 |
| 1018 | 4.6 | 1.9 | 25 |
| 1122 | 5.0 | 3.4 | 30 |
| 1224 | 5.0 | 2.9 | 30 |
| 1317 | 4.0 | 3.3 | 35 |
| 1417 | 4.6 | 3.1 | 25 |
| 1500 | 4.8 | 3.0 | 20 |
| | Bottom | | |
| 0735 | 8.0 | 0.2 | 30 |
| 0815 | 7.1 | 0.6 | 90 |
| 0916 | 7.7 | 1.2 | 50 |
| 1016 | 8.2 | 1.3 | 40 |
| 1120 | 9.0 | 2.9 | 30 |
| 1222 | 8.6 | 2.1 | 27 |
| 1315 | 6.8 | 3.2 | 20 |
| 1415 | 8.2 | 2.8 | 30 |
| 1458 | 8.6 | 3.2 | 27 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 37

Current Data Observed at Sta 2-B, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0724 | 3.0 | 0.4 | 305 |
| 0804 | 3.0 | 0.7 | 310 |
| 0904 | 3.0 | 0.8 | 310 |
| 1005 | 3.0 | 1.2 | 300 |
| 1110 | 3.0 | 1.8 | 300 |
| 1208 | 3.0 | 1.0 | 300 |
| 1304 | 3.0 | 1.0 | 315 |
| 1404 | 3.0 | 1.4 | 300 |
| 1508 | 3.0 | 1.2 | 310 |
| | Middepth | | |
| 0722 | 18.2 | 0.3 | 275 |
| 0802 | 18.9 | 0.6 | 295 |
| 0902 | 17.3 | 0.9 | 305 |
| 1003 | 18.0 | 1.0 | 285 |
| 1108 | 10.5 | 1.0 | 300 |
| 1206 | 8.5 | 0.9 | 320 |
| 1302 | 8.5 | 1.0 | 300 |
| 1402 | 10.5 | 0.8 | 280 |
| 1506 | 9.5 | 1.0 | 290 |
| | Bottom† | | |
| 0719 | 35.3 | 0.0 | 0 |
| 0800 | 36.9 | 0.1 | 175 |
| 0900 | 34.5 | 0.3 | 300 |
| 1001 | 35.0 | 0.1 | 205 |
| 1106 | 19.8 | 1.2 | 300 |
| 1204 | 16.0 | 0.1 | 280 |
| 1300 | 16.0 | 0.3 | 300 |
| 1400 | 20.0 | 0.6 | 280 |
| 1504 | 18.0 | 0.4 | 290 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 38

Current Data Observed at Sta 2-C, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0730 | 3.0 | 0.8 | 335 |
| 0811 | 3.0 | 0.7 | 325 |
| 0912 | 3.0 | 1.2 | 10 |
| 1011 | 3.0 | 1.1 | 300 |
| 1114 | 3.0 | 2.1 | 300 |
| 1216 | 3.0 | 2.3 | 305 |
| 1312 | 3.0 | 2.5 | 305 |
| 1412 | 3.0 | 2.7 | 305 |
| 1515 | 3.0 | 2.4 | 310 |
| | Middepth | | |
| 0728 | 13.7 | 0.3 | 320 |
| 0809 | 15.1 | 0.6 | 330 |
| 0910 | 11.8 | 0.9 | 305 |
| 1009 | 11.5 | 0.7 | 290 |
| 1113 | 18.5 | 1.7 | 305 |
| 1214 | 18.5 | 1.9 | 310 |
| 1310 | 18.5 | 2.4 | 305 |
| 1410 | 18.6 | 2.4 | 310 |
| 1513 | 18.6 | 2.5 | 310 |
| | Bottom† | | |
| 0726 | 27.4 | 0.3 | 0 |
| 0807 | 29.2 | 0.0 | 0 |
| 0908 | 22.6 | 0.2 | 320 |
| 1007 | 22.1 | 0.6 | 325 |
| 1111 | 36.1 | 0.8 | 310 |
| 1212 | 36.0 | 0.9 | 310 |
| 1308 | 36.0 | 0.9 | 290 |
| 1408 | 36.6 | 1.2 | 270 |
| 1511 | 36.5 | 1.4 | 280 |

* Direction from true north from which the current is flowing.

** Surface measurement obtained at 3.0 ft below top of water surface.

† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 39

Current Data Observed at Sta 3-A, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0716 | 3.0 | 1.2 | 214 |
| 0802 | 3.0 | 1.7 | 230 |
| 0902 | 3.0 | 2.0 | 214 |
| 1455 | 3.0 | 3.1 | 26 |
| | Middepth | | |
| 0715 | 13.8 | 1.6 | 240 |
| 0801 | 13.9 | 1.5 | 234 |
| 0901 | 11.9 | 1.7 | 208 |
| 1001 | 10.2 | 1.4 | 250 |
| 1454 | 12.7 | 3.2 | 50 |
| | Bottom† | | |
| 0714 | 25.6 | 1.4 | 240 |
| 0800 | 25.8 | 1.3 | 240 |
| 0900 | 21.8 | 1.7 | 250 |
| 1000 | 18.4 | 1.1 | 250 |
| 1453 | 23.4 | 2.2 | 60 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 40

Current Data Observed at Sta 3-B, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | | Surface** | |
| 0727 | 3.0 | 1.4 | 236 |
| 0808 | 3.0 | 1.8 | 236 |
| 0908 | 3.0 | 1.8 | 240 |
| 1502 | 3.0 | 3.2 | 30 |
| | | Middepth | |
| 0726 | 9.5 | 1.5 | 242 |
| 0807 | 9.1 | 1.6 | 236 |
| 0907 | 9.2 | 1.6 | 242 |
| 1501 | 8.2 | 3.0 | 40 |
| | | Bottom† | |
| 0725 | 17.0 | 1.0 | 240 |
| 0806 | 16.2 | 1.3 | 240 |
| 0906 | 16.4 | 1.1 | 226 |
| 1500 | 14.4 | 1.9 | 52 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 41

Current Data Observed at Sta 3-C, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0743 | 3.0 | 0.5 | 118 |
| 0823 | 3.0 | 0.6 | 60 |
| 0916 | 3.0 | 0.2 | 260 |
| 1047 | 3.0 | 2.2 | 324 |
| 1132 | 3.0 | 2.2 | 326 |
| 1232 | 3.0 | 2.6 | 330 |
| 1332 | 3.0 | 2.9 | 326 |
| 1434 | 3.0 | 2.7 | 330 |
| 1517 | 3.0 | 2.6 | 310 |
| | Middepth | | |
| 0742 | 20.3 | 0.6 | 100 |
| 0822 | 20.2 | 1.0 | 78 |
| 0915 | 20.1 | 0.5 | 116 |
| 1046 | 18.3 | 0.7 | 346 |
| 1131 | 18.0 | 1.0 | 334 |
| 1231 | 18.4 | 1.4 | 330 |
| 1331 | 18.7 | 2.0 | 320 |
| 1433 | 18.3 | 2.1 | 322 |
| 1516 | 18.7 | 2.2 | 310 |
| | Bottom† | | |
| 0741 | 38.6 | 0.3 | 112 |
| 0820 | 38.4 | 0.3 | 110 |
| 0914 | 38.2 | 0.3 | 128 |
| 1045 | 34.6 | 0.1 | 22 |
| 1130 | 34.0 | 0.1 | 330 |
| 1230 | 34.8 | 0.7 | 312 |
| 1330 | 35.4 | 0.3 | 20 |
| 1430 | 34.6 | 0.3 | 342 |
| 1515 | 35.4 | 0.1 | 312 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 42

Current Data Observed at Sta 3-D, 27 November 1988

| Hour CST | Depth ft | Speed fps | Direction deg* |
|---|---|---|---|
| | Surface** | | |
| 0750 | 3.0 | 0.7 | 110 |
| 0829 | 3.0 | 0.4 | 90 |
| 0923 | 3.0 | 0.1 | 70 |
| 1056 | 3.0 | 1.9 | 328 |
| 1140 | 3.0 | 2.3 | 328 |
| 1237 | 3.0 | 2.6 | 322 |
| 1344 | 3.0 | 2.9 | 324 |
| 1444 | 3.0 | 2.8 | 310 |
| 1525 | 3.0 | 2.6 | 314 |
| | Middepth | | |
| 0749 | 17.5 | 0.7 | 96 |
| 0828 | 18.7 | 0.6 | 80 |
| 0923 | 17.3 | 0.1 | 134 |
| 1055 | 17.7 | 0.9 | 334 |
| 1139 | 20.1 | 0.7 | 338 |
| 1236 | 20.2 | 1.5 | 320 |
| 1343 | 20.3 | 1.8 | 322 |
| 1443 | 20.3 | 1.9 | 304 |
| 1524 | 20.6 | 1.7 | 306 |
| | Bottom† | | |
| 0748 | 33.0 | 0.5 | 94 |
| 0827 | 35.4 | 0.2 | 58 |
| 0922 | 32.6 | 0.2 | 130 |
| 1054 | 33.4 | 0.2 | 32 |
| 1138 | 38.2 | 0.2 | 342 |
| 1235 | 38.4 | 0.3 | 324 |
| 1342 | 38.6 | 0.3 | 44 |
| 1440 | 38.6 | 0.1 | 40 |
| 1523 | 39.2 | 0.6 | 324 |

* Direction from true north from which the current is flowing.
** Surface measurement obtained at 3.0 ft below top of water surface.
† Bottom measurement obtained at 2.0 ft above actual bottom.

Table 43

Salinity Data Observed at Range 1, 26 October 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 731 | A | – | – | 26.8 |
| 742 | C | – | – | 26.5 |
| 803 | A | 20.6 | 22.1 | 26.9 |
| 811 | B | 20.6 | 22.2 | 26.8 |
| 818 | C | 21.5 | 21.8 | 26.5 |
| 835 | X | 20.1 | – | – |
| 847 | A | 20.9 | 22.4 | 26.4 |
| 853 | B | 20.6 | 22.6 | 26.8 |
| 859 | C | 20.8 | 21.2 | 25.8 |
| 904 | X | 21.4 | – | – |
| 917 | A | 20.9 | 22.0 | 26.1 |
| 925 | B | 20.9 | 22.4 | 26.4 |
| 931 | C | 20.4 | 21.2 | 26.1 |
| 939 | X | 21.4 | – | – |
| 948 | A | 20.9 | 21.6 | 26.1 |
| 1001 | B | 21.0 | 22.7 | 26.2 |
| 1010 | C | 20.8 | 21.1 | 25.8 |
| 1019 | X | 21.4 | – | – |
| 1028 | A | 20.7 | 21.1 | 25.4 |
| 1035 | B | 20.8 | 21.9 | 26.0 |
| 1043 | C | 20.7 | 20.9 | 24.4 |
| 1102 | A | 20.7 | 20.8 | 25.2 |
| 1108 | B | 20.6 | 21.2 | 25.6 |
| 1114 | C | 20.5 | 21.4 | 25.6 |
| 1202 | A | 20.2 | 20.9 | 24.8 |
| 1210 | B | 20.1 | 22.3 | 25.4 |
| 1216 | C | 20.3 | 20.4 | 24.9 |
| 1303 | A | 19.8 | 20.6 | 24.9 |
| 1308 | B | 19.7 | 22.1 | 25.2 |
| 1318 | C | 19.8 | 20.7 | 25.0 |
| 1401 | A | 19.6 | 22.2 | 24.9 |
| 1407 | B | 19.6 | 23.8 | 25.4 |
| 1413 | C | 19.7 | 23.8 | 25.2 |
| 1502 | A | 20.0 | 19.7 | 20.1 |
| 1510 | B | 19.1 | 21.7 | 25.3 |
| 1516 | C | 19.2 | 20.0 | 24.9 |
| 1557 | A | 19.4 | 19.7 | – |
| 1605 | B | 19.4 | 24.1 | 25.4 |
| 1611 | C | 19.5 | 21.6 | 25.2 |
| 1740 | C | – | – | 26.5 |

Note: – = no sample.

Table 44

Salinity Data Observed at Range 2, 26 October 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 717 | B | 15.6 | 21.2 | 27.4 |
| 725 | C | 16.7 | 27.4 | 27.4 |
| 734 | A | 10.2 | 10.2 | 10.2 |
| 759 | B | 15.6 | 20.0 | 27.4 |
| 808 | C | 16.3 | 23.1 | 27.3 |
| 816 | A | 10.2 | 10.2 | 10.3 |
| 831 | B | 15.5 | 20.6 | 10.2 |
| 837 | C | 16.4 | 27.4 | 27.4 |
| 845 | A | 10.2 | 10.0 | 16.1 |
| 854 | X | 9.8 | – | – |
| 901 | B | 16.1 | 25.4 | 26.5 |
| 906 | C | 14.9 | 21.3 | 26.6 |
| 915 | A | 10.3 | 10.1 | 10.1 |
| 922 | X | 9.7 | – | – |
| 932 | B | 14.0 | 20.6 | 26.0 |
| 938 | C | 14.8 | 25.7 | 20.9 |
| 946 | A | 10.5 | 10.1 | 10.1 |
| 953 | X | 9.8 | – | – |
| 1003 | B | 14.1 | 20.1 | 25.6 |
| 1014 | C | 15.8 | 19.6 | 26.1 |
| 1022 | A | 10.4 | 10.4 | 10.2 |
| 1101 | B | 14.3 | 20.8 | 25.9 |
| 1108 | C | 15.5 | 18.2 | 25.7 |
| 1115 | A | 10.9 | 10.2 | 10.2 |
| 1202 | B | 13.9 | 19.4 | 25.3 |
| 1210 | C | 15.7 | 18.6 | 25.9 |
| 1217 | A | 10.2 | 10.7 | 10.1 |
| 1302 | B | 13.6 | 20.2 | 25.5 |
| 1311 | C | 15.6 | 19.8 | 25.8 |
| 1318 | A | 10.7 | 10.0 | 9.9 |
| 1403 | B | 13.0 | 17.4 | 25.3 |
| 1409 | C | 15.7 | 18.7 | 25.5 |
| 1417 | A | 10.6 | 9.9 | 9.8 |
| 1501 | B | 13.5 | 16.0 | 20.6 |
| 1507 | C | 15.8 | 17.7 | 24.7 |
| 1516 | A | 16.2 | 15.8 | 15.9 |
| 1531 | B | 14.9 | 16.0 | 23.1 |
| 1539 | C | 15.7 | 17.7 | 25.0 |
| 1548 | A | 16.4 | 15.9 | 15.2 |

Note: – = no sample

Table 45

Salinity Data Observed at Range 3, 26 October 1988

| Hour CST | Sta No. | Salinity, ppt | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 705 | A | No data | 22.9 | 24.5 |
| 715 | B | 14.3 | 19.2 | 22.9 |
| 727 | C | – | 18.6 | 25.7 |
| 735 | D | 15.0 | 15.8 | 20.4 |
| 804 | A | 13.7 | 21.2 | 24.2 |
| 807 | B | 13.9 | 17.7 | 20.8 |
| 816 | C | 14.7 | 18.6 | 25.5 |
| 821 | D | 13.9 | 19.1 | 25.5 |
| 832 | X | 12.6 | – | 14.9 |
| 839 | A | 19.2 | 20.2 | 23.8 |
| 845 | B | 13.5 | 19.7 | 19.4 |
| 855 | C | 17.9 | 25.6 | 25.9 |
| 859 | D | 13.9 | 16.2 | 16.8 |
| 909 | X | 12.0 | – | 15.5 |
| 916 | A | 11.5 | 19.1 | 24.4 |
| 921 | B | 11.4 | 14.4 | 18.4 |
| 929 | C | 13.6 | 19.2 | 25.6 |
| 935 | D | 14.0 | 24.1 | 25.7 |
| 944 | X | 12.2 | – | 11.9 |
| 951 | A | 11.8 | 16.0 | 19.0 |
| 956 | B | 11.9 | 12.9 | 14.3 |
| 1004 | C | 14.2 | 18.0 | 23.6 |
| 1009 | D | 13.8 | 21.8 | 25.7 |
| 1016 | A | 11.0 | 12.9 | 19.1 |
| 1023 | B | 11.0 | 11.0 | 13.7 |
| 1029 | C | 12.9 | 18.6 | 25.6 |
| 1036 | D | 13.4 | 21.0 | 25.4 |
| 1101 | A | 11.0 | 11.4 | 17.7 |
| 1106 | B | 10.6 | 10.7 | 11.2 |
| 1115 | C | 12.5 | 19.4 | 24.6 |
| 1120 | D | 12.7 | 19.2 | 24.7 |
| 1201 | A | 11.0 | 11.0 | 13.8 |
| 1207 | B | 10.8 | 10.8 | 11.4 |
| 1217 | C | 12.3 | 17.2 | 24.2 |
| 1223 | D | 12.3 | 20.1 | 25.0 |
| 1301 | A | 10.6 | 11.1 | 11.8 |
| 1307 | B | 11.2 | 11.9 | 12.0 |
| 1315 | C | 11.7 | 17.7 | 24.2 |
| 1322 | D | 12.3 | 23.5 | 24.8 |
| 1401 | A | 10.7 | 10.8 | 11.2 |

(Continued)

Note: – = no sample.

Table 45 (Concluded)

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 1407 | B | 11.0 | 11.3 | 11.2 |
| 1416 | C | 11.8 | 23.6 | 23.6 |
| 1421 | D | 11.7 | 19.3 | 24.4 |
| 1501 | A | 11.1 | 12.7 | 22.4 |
| 1506 | B | 10.9 | 10.9 | 11.7 |
| 1514 | C | 12.0 | 18.7 | 23.7 |

Table 46

Salinity Data Observed at Range 1, 11 November 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 732 | A | 24.2 | 25.7 | 29.2 |
| 742 | B | 24.7 | 27.6 | 29.9 |
| 752 | C | 24.7 | 25.6 | 29.2 |
| 808 | A | 24.8 | 25.3 | 28.8 |
| 817 | B | 24.7 | 26.6 | 29.2 |
| 825 | C | 24.8 | 25.1 | 28.7 |
| 903 | A | 24.8 | 26.3 | 28.7 |
| 913 | B | 24.7 | 26.5 | 28.8 |
| 921 | C | 24.9 | 25.4 | 28.3 |
| 1002 | A | 24.3 | 25.7 | 27.9 |
| 1011 | B | 24.6 | 26.5 | 28.3 |
| 1019 | C | 24.8 | 24.9 | 27.9 |
| 1102 | A | 24.5 | 25.1 | 27.9 |
| 1111 | B | 24.5 | 25.9 | 27.9 |
| 1119 | C | 24.7 | 24.8 | 27.3 |
| 1202 | A | 24.4 | 24.4 | 27.2 |
| 1208 | B | 24.3 | 24.8 | 27.5 |
| 1217 | C | 24.4 | 24.5 | 27.0 |
| 1305 | A | 24.1 | 24.1 | 24.3 |
| 1314 | B | 23.9 | 25.3 | 27.4 |
| 1323 | C | 23.0 | 24.2 | 27.0 |
| 1402 | A | 24.0 | 23.9 | 23.9 |
| 1410 | B | 23.8 | 24.8 | 27.3 |
| 1417 | C | 24.0 | 24.1 | 26.9 |
| 1503 | A | 24.0 | 23.9 | 24.2 |
| 1511 | B | 23.9 | 24.3 | 27.4 |
| 1520 | C | 24.1 | 24.3 | 26.8 |
| 1604 | A | 24.1 | 24.0 | 24.5 |
| 1616 | B | 24.0 | 24.8 | 27.4 |
| 1616 | C | 24.1 | 24.9 | 26.8 |

Table 47

Salinity Data Observed at Range 2, 11 November 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 724 | B | 20.1 | 22.5 | 24.2 |
| 732 | C | 21.5 | 24.4 | 24.5 |
| 742 | A | 11.8 | 11.3 | 15.5 |
| 802 | B | 14.6 | 21.5 | 23.7 |
| 812 | C | 18.6 | 24.0 | 24.3 |
| 822 | A | 11.9 | 11.4 | 11.5 |
| 902 | B | 15.2 | 20.9 | 23.6 |
| 908 | C | 17.4 | 22.4 | 24.0 |
| 922 | A | 12.0 | 11.6 | 11.5 |
| 1002 | B | 18.4 | 22.0 | 23.3 |
| 1010 | C | 15.9 | 22.9 | 23.8 |
| 1020 | A | 12.0 | 11.6 | 11.6 |
| 1102 | B | 17.7 | 22.0 | 23.4 |
| 1108 | C | 16.0 | 22.4 | 23.6 |
| 1123 | A | 12.0 | 11.6 | 11.6 |
| 1204 | B | 16.6 | 20.4 | 22.8 |
| 1212 | C | 22.7 | 22.7 | 23.5 |
| 1226 | A | 11.9 | 11.5 | 11.5 |
| 1302 | B | 16.5 | 20.8 | 22.6 |
| 1313 | C | 20.5 | 22.0 | 23.3 |
| 1322 | A | 11.9 | 11.6 | 12.5 |
| 1402 | B | 16.9 | 20.8 | 22.5 |
| 1414 | C | 16.8 | 20.5 | 23.1 |
| 1425 | A | 15.2 | 15.1 | 17.9 |
| 1502 | B | 16.9 | 20.5 | 22.8 |
| 1509 | C | 17.8 | 20.5 | 20.9 |
| 1517 | A | 17.8 | 19.4 | 18.8 |
| 1602 | B | 17.4 | 20.2 | 22.8 |
| 1612 | C | 17.7 | 20.5 | 23.0 |
| 1622 | A | 17.8 | 18.2 | 18.0 |

Table 48

Salinity Data Observed at Range 3, 11 November 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 705 | A | 11.8 | 19.3 | 23.2 |
| 711 | B | 11.9 | 11.6 | 13.1 |
| 728 | C | 12.7 | 23.0 | 23.4 |
| 736 | D | 13.5 | 22.9 | 23.5 |
| 801 | A | 11.9 | 11.9 | 23.0 |
| 807 | B | 11.8 | 11.4 | 11.5 |
| 816 | C | 13.3 | 22.0 | 23.3 |
| 825 | D | 14.3 | 22.7 | 23.3 |
| 903 | A | 11.7 | 11.5 | 22.7 |
| 907 | B | 12.0 | 11.6 | 11.8 |
| 915 | C | 13.2 | 22.8 | 23.3 |
| 921 | D | 13.2 | 22.6 | 23.3 |
| 948 | A | 11.4 | 11.7 | 20.0 |
| 952 | B | 11.9 | 11.6 | 11.6 |
| 959 | C | 12.6 | 22.6 | 23.2 |
| 1004 | D | 22.4 | 22.9 | 23.3 |
| 1021 | A | 11.3 | 11.3 | 22.4 |
| 1026 | B | 11.9 | 11.4 | 11.4 |
| 1035 | C | 12.3 | 22.6 | 23.1 |
| 1041 | D | 16.4 | 22.1 | 23.1 |
| 1102 | A | 11.7 | 11.4 | 22.5 |
| 1107 | B | 11.8 | 11.4 | 11.5 |
| 1115 | C | 13.5 | 22.5 | 23.1 |
| 1121 | D | 13.3 | 21.1 | 22.9 |
| 1201 | A | 11.7 | 11.5 | 22.2 |
| 1206 | B | 11.7 | 11.4 | 11.8 |
| 1216 | C | 12.9 | 21.8 | 23.0 |
| 1222 | D | 13.1 | 21.6 | 23.0 |
| 1301 | A | 11.8 | 11.5 | 20.9 |
| 1307 | B | 11.7 | 11.8 | 11.9 |
| 1316 | C | 12.9 | 20.7 | 22.7 |
| 1322 | D | 12.8 | 19.9 | 22.9 |
| 1401 | A | 11.8 | 11.6 | 20.9 |
| 1407 | B | 11.6 | 11.4 | 11.7 |
| 1416 | C | 12.6 | 20.4 | 22.4 |
| 1423 | D | 12.8 | 20.2 | 22.8 |
| 1501 | A | 11.9 | 11.6 | 21.4 |
| 1509 | B | 11.7 | 11.8 | 11.9 |
| 1520 | C | 12.4 | 19.4 | 22.3 |
| 1535 | D | 12.7 | 20.0 | 22.6 |

(Continued)

Table 48 (Concluded)

| Hour CST | Sta No. | Salinity, ppt | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 1601 | A | 11.8 | 11.6 | 21.9 |
| 1606 | B | 11.6 | 12.1 | 12.3 |
| 1616 | C | 12.2 | 18.5 | 22.3 |
| 1623 | D | 12.9 | 19.8 | 22.6 |

Table 49

Salinity Data Observed at Range 1, 27 November 1988

| Hour CST | Sta No. | Salinity, ppt | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 743 | A | 21.3 | 21.7 | 23.3 |
| 751 | B | 20.3 | 22.5 | 25.9 |
| 757 | C | 20.8 | 22.4 | 25.5 |
| 804 | A | 20.8 | 22.1 | 24.4 |
| 810 | B | 21.0 | 22.4 | 25.5 |
| 815 | C | 20.6 | 22.6 | 25.2 |
| 902 | A | 21.2 | 22.2 | 24.2 |
| 911 | B | 20.7 | 23.2 | 24.8 |
| 917 | C | 20.7 | 22.8 | 24.4 |
| 1002 | A | 21.3 | 22.1 | 23.4 |
| 1007 | B | 21.1 | 22.7 | 23.9 |
| 1015 | C | 20.7 | 22.3 | 23.6 |
| 1102 | A | 21.3 | 21.9 | 23.4 |
| 1111 | B | 21.1 | 22.4 | 23.3 |
| 1117 | C | 20.9 | 22.4 | 23.2 |
| 1204 | A | 21.4 | 21.3 | 22.4 |
| 1209 | B | 21.3 | 22.3 | 22.9 |
| 1215 | C | 21.3 | 22.0 | 22.9 |
| 1303 | A | 21.4 | 21.3 | 22.2 |
| 1308 | B | 21.1 | 21.9 | 22.6 |
| 1314 | C | 21.2 | 21.8 | 22.6 |
| 1401 | A | 21.0 | 21.3 | 21.3 |
| 1405 | B | 20.9 | 21.2 | 22.3 |
| 1410 | C | 20.7 | 21.2 | 22.3 |
| 1502 | A | 20.4 | 20.4 | 20.5 |
| 1511 | B | 20.2 | 20.6 | 21.6 |
| 1519 | C | 20.3 | 20.5 | 21.8 |

Table 50

Salinity Data Observed at Range 2, 27 November 1988

| Hour CST | Sta No. | Salinity, ppt Surface | Middepth | Bottom |
|---|---|---|---|---|
| 722 | B | 19.8 | 21.2 | 21.5 |
| 728 | C | 17.8 | 20.9 | 21.4 |
| 737 | A | 13.8 | 14.0 | 17.8 |
| 802 | B | 18.7 | 21.1 | 21.4 |
| 809 | C | 17.5 | 21.0 | 21.4 |
| 817 | A | 13.3 | 13.6 | 18.8 |
| 902 | B | 19.3 | 22.6 | 21.3 |
| 910 | C | 17.0 | 20.6 | 21.3 |
| 918 | A | 13.4 | 13.1 | 14.9 |
| 1003 | B | 18.8 | 20.5 | 21.1 |
| 1009 | C | 17.3 | 19.8 | 20.8 |
| 1003 | A | 13.5 | 13.2 | 13.2 |
| 1108 | B | 16.6 | 19.6 | 20.0 |
| 1113 | C | 17.8 | 20.1 | 20.8 |
| 1122 | A | 13.4 | 13.2 | 13.2 |
| 1206 | B | 16.6 | 18.1 | 19.4 |
| 1214 | C | 17.8 | 19.4 | 20.6 |
| 1224 | A | 13.5 | 13.2 | 13.1 |
| 1302 | B | 16.7 | 17.5 | 19.7 |
| 1310 | C | 17.9 | 19.1 | 20.4 |
| 1317 | A | 13.2 | 12.9 | 12.9 |
| 1402 | B | 16.5 | 17.4 | 18.9 |
| 1410 | C | 17.3 | 18.7 | 19.9 |
| 1417 | A | 13.3 | 13.0 | 13.0 |
| 150[illegible] | A | 13.3 | 13.1 | 13.0 |
| 1506 | B | 16.3 | 17.3 | 17.2 |
| 1513 | C | 17.4 | 18.2 | 19.5 |

Table 51

Salinity Data Observed at Range 3, 27 November 1988

| Hour CST | Sta No. | Salinity, ppt | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 715 | A | – | – | 17.3 |
| 801 | A | 16.1 | 17.3 | 17.5 |
| 807 | B | 15.7 | 15.9 | 17.5 |
| 822 | C | 16.9 | 17.8 | 17.9 |
| 828 | D | 16.7 | 17.9 | 18.0 |
| 901 | A | 15.8 | 16.6 | 17.6 |
| 907 | B | 15.6 | 15.9 | 17.5 |
| 915 | C | 16.8 | 17.7 | 18.0 |
| 923 | D | 15.9 | 17.9 | 18.0 |
| 1001 | A | – | 16.2 | 17.6 |
| 1046 | C | 14.0 | 16.7 | 17.8 |
| 1055 | D | 14.1 | 16.1 | 17.9 |
| 1131 | C | 13.6 | 16.5 | 17.8 |
| 1139 | D | 13.6 | 17.0 | 18.0 |
| 1231 | C | 13.6 | 15.6 | 17.5 |
| 1236 | D | 13.6 | 15.6 | 17.7 |
| 1331 | C | 13.5 | 14.1 | 17.0 |
| 1343 | D | 13.3 | 14.3 | 17.3 |
| 1433 | C | 13.1 | 13.5 | 15.5 |
| 1443 | D | 13.0 | 13.6 | 17.1 |
| 1454 | A | 12.6 | 13.6 | 15.3 |
| 1501 | B | 12.6 | 13.8 | 15.7 |
| 1516 | C | 12.8 | 13.2 | 13.5 |
| 1524 | D | 12.5 | 13.4 | 13.7 |

Note: – = no sample.

Table 52

Automatic Sampler Salinity Data for 26 October 1988

| Hour CST | Salinity, ppt AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 15.0 | 10.2 |
| 0730 | 13.5 | 10.0 |
| 0800 | 12.9 | 10.0 |
| 0830 | 13.4 | 10.0 |
| 0900 | 13.5 | 10.0 |
| 0930 | 13.0 | 9.9 |
| 1000 | 11.6 | 9.9 |
| 1030 | 11.2 | 9.9 |
| 1100 | 11.3 | 9.9 |
| 1130 | 11.4 | 9.9 |
| 1200 | 11.4 | 9.9 |
| 1230 | 11.4 | 9.8 |
| 1300 | 11.4 | 9.8 |
| 1330 | 11.3 | 9.8 |
| 1400 | 11.2 | 9.8 |
| 1430 | 11.1 | 9.7 |
| 1500 | 11.0 | 9.7 |
| 1530 | 11.0 | 9.7 |
| 1600 | 11.0 | 10.0 |
| 1630 | 11.1 | 12.6 |
| 1700 | 11.1 | 14.1 |
| 1730 | 11.1 | 14.5 |
| 1800 | 11.1 | 14.8 |
| 1830 | 11.1 | 15.9 |

Table 53

Automatic Sampler Salinity Data

28 October–9 November 1988

| Hour CST | Salinity, ppt AWS-2 | AWS-1 |
|---|---|---|
| 10/28 | 10.7 | 13.2 |
| 10/29 | 12.8 | 12.8 |
| 10/29 | 10.7 | 12.3 |
| 10/30 | 11.6 | 10.6 |
| 10/30 | 10.5 | 11.0 |
| 10/31 | 10.7 | 11.6 |
| 10/31 | 10.2 | 10.5 |
| 11/01 | 10.9 | 11.2 |
| 11/01 | 10.4 | 10.3 |
| 11/02 | 10.2 | 9.6 |
| 11/02 | 10.7 | 9.5 |
| 11/03 | 11.1 | 9.6 |
| 11/03 | 12.2 | 11.6 |
| 11/04 | 13.3 | 11.7 |
| 11/04 | 14.0 | 13.9 |
| 11/05 | 15.3 | 18.1 |
| 11/05 | 15.7 | 11.6 |
| 11/06 | 16.6 | 12.7 |
| 11/06 | 15.2 | 11.6 |
| 11/07 | 17.1 | 16.1 |
| 11/07 | 20.0 | 15.7 |
| 11/08 | 21.5 | 18.3 |
| 11/08 | 22.5 | 14.6 |
| 11/09 | 19.0 | 14.2 |

Table 54

Automatic Sampler Salinity Data for 11 November 1988

| Hour CST | Salinity, ppt AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 11.9 | 12.2 |
| 0730 | 11.8 | 11.9 |
| 0800 | 11.7 | 11.9 |
| 0830 | 11.6 | 11.8 |
| 0900 | 11.5 | 11.7 |
| 0930 | 11.4 | 11.6 |
| 1000 | 11.4 | 11.5 |
| 1030 | 11.3 | 11.5 |
| 1100 | 11.3 | 11.5 |
| 1130 | 11.3 | 11.4 |
| 1200 | 11.4 | 11.3 |
| 1230 | 11.4 | 11.3 |
| 1300 | 11.4 | 11.4 |
| 1330 | 11.4 | 11.4 |
| 1400 | 11.4 | 11.5 |
| 1430 | 11.4 | 11.7 |
| 1500 | 11.4 | 11.5 |
| 1530 | 11.4 | 11.6 |
| 1600 | 11.4 | 11.9 |
| 1630 | 11.5 | 12.8 |
| 1700 | 11.6 | 13.2 |
| 1730 | 11.5 | 15.5 |
| 1800 | 11.4 | 16.0 |
| 1830 | 11.4 | 15.5 |

Table 55

Automatic Sampler Salinity Data for

13-25 November 1988

| Hour CST | Salinity, ppt AWS-2 | AWS-1* |
|---|---|---|
| 11/13 | 16.2 | |
| 11/14 | 14.4 | |
| 11/14 | 11.4 | |
| 11/15 | 12.3 | |
| 11/15 | 12.0 | |
| 11/16 | 13.0 | |
| 11/16 | 14.4 | |
| 11/17 | 13.9 | |
| 11/17 | 12.4 | |
| 11/18 | 12.1 | |
| 11/18 | 12.7 | |
| 11/19 | 12.1 | |
| 11/19 | 11.8 | |
| 11/20 | 12.3 | |
| 11/20 | 13.7 | |
| 11/21 | 13.3 | |
| 11/21 | 12.7 | |
| 11/22 | 11.7 | |
| 11/22 | 11.2 | |
| 11/23 | 10.6 | |
| 11/23 | 11.2 | |
| 11/24 | 10.6 | |
| 11/24 | 11.0 | |
| 11/25 | 10.9 | |

* No samples available due to instrument malfunction.

Table 56

Automatic Sampler Salinity Data for 27 November 1988

| Hour CST | Salinity, ppt AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 13.8 | 13.5 |
| 0730 | 15.3 | 12.9 |
| 0800 | 15.7 | 12.7 |
| 0830 | 15.6 | 12.7 |
| 0900 | 16.2 | 12.9 |
| 0930 | 16.2 | 13.1 |
| 1000 | 16.1 | 13.1 |
| 1030 | 16.1 | 13.2 |
| 1100 | 15.8 | 13.2 |
| 1130 | 15.3 | 13.1 |
| 1200 | 15.0 | 13.1 |
| 1230 | 14.5 | 12.7 |
| 1300 | 14.1 | 12.6 |
| 1330 | 14.5 | 12.5 |
| 1400 | 14.8 | 12.5 |
| 1430 | 14.6 | 12.5 |
| 1500 | 14.7 | 12.5 |
| 1530 | 14.2 | 12.4 |
| 1600 | 13.3 | 12.4 |
| 1630 | 12.6 | 12.4 |
| 1700 | 12.1 | 12.4 |
| 1730 | 11.8 | 12.4 |
| 1800 | 11.6 | 12.4 |
| 1830 | 11.6 | 12.4 |

Table 57

Suspended Sediment Concentration Data Observed at

Range 1, 26 October 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 731 | A | 13 | 68 | 314 |
| 742 | C | 17 | 36 | 192 |
| 803 | A | 20 | 55 | 348 |
| 811 | B | 15 | 14 | 636 |
| 818 | C | 13 | 34 | 476 |
| 835 | X | 17 | – | – |
| 847 | A | 16 | 29 | 252 |
| 853 | B | 9 | 16 | 672 |
| 859 | C | 24 | 36 | 2160 |
| 904 | X | 25 | – | – |
| 917 | A | 13 | 30 | 242 |
| 925 | B | 13 | 18 | 712 |
| 931 | C | 30 | 31 | 191 |
| 939 | X | 24 | – | – |
| 948 | A | 19 | 30 | 352 |
| 1001 | B | 20 | 24 | 344 |
| 1010 | C | 22 | 21 | 544 |
| 1019 | X | 19 | – | – |
| 1028 | A | 15 | 35 | 196 |
| 1035 | B | 14 | 22 | 240 |
| 1043 | C | 18 | 23 | 95 |
| 1102 | A | 16 | 29 | 132 |
| 1108 | B | 13 | 19 | 182 |
| 1114 | C | 13 | 26 | 148 |
| 1202 | A | 14 | 22 | 103 |
| 1210 | B | 15 | 16 | 115 |
| 1216 | C | 17 | 27 | 224 |
| 1303 | A | 23 | 19 | 37 |
| 1308 | B | 11 | 19 | 49 |
| 1318 | C | 12 | 13 | 22 |
| 1401 | A | 10 | 15 | 28 |
| 1407 | B | 12 | 16 | 30 |
| 1413 | C | 11 | 18 | 38 |
| 1502 | A | 15 | 14 | 17 |
| 1510 | B | 9 | 14 | 27 |
| 1516 | C | 12 | 16 | 29 |
| 1557 | A | 17 | 14 | – |
| 1605 | B | 11 | 17 | 99 |
| 1611 | C | 10 | 16 | 18 |
| 1740 | C | – | – | – |

Note: – = No sample taken.

Table 58

Suspended Sediment Concentration Data Observed at

Range 2, 26 October 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 717 | B | 8 | 9 | 73 |
| 725 | C | 7 | 38 | 56 |
| 734 | A | 14 | 11 | 21 |
| 759 | B | 10 | 10 | 58 |
| 808 | C | 7 | 13 | 46 |
| 816 | A | 15 | 19 | 41 |
| 831 | B | 11 | 13 | 16 |
| 837 | C | 9 | 27 | 176 |
| 845 | A | 13 | 15 | 10 |
| 854 | X | 6 | – | – |
| 901 | B | 11 | 81 | 219 |
| 906 | C | 11 | 33 | 81 |
| 915 | A | 11 | 16 | 18 |
| 922 | X | 5 | – | – |
| 932 | B | 7 | 9 | 80 |
| 938 | C | 8 | 9 | 206 |
| 946 | A | 13 | 11 | 17 |
| 953 | X | 5 | – | – |
| 1003 | B | 9 | 13 | 250 |
| 1014 | C | 10 | 12 | 76 |
| 1022 | A | 13 | 14 | 21 |
| 1101 | B | 8 | 16 | 194 |
| 1108 | C | 7 | 13 | 96 |
| 1115 | A | 21 | 15 | 25 |
| 1202 | B | 9 | 14 | 135 |
| 1210 | C | 7 | 16 | 60 |
| 1217 | A | 9 | 12 | 12 |
| 1302 | B | 7 | 16 | 137 |
| 1311 | C | 5 | 12 | 71 |
| 1318 | A | 10 | 10 | 11 |
| 1403 | B | 6 | 9 | 68 |
| 1409 | C | 7 | 8 | 37 |
| 1417 | A | 13 | 15 | 13 |
| 1501 | B | 6 | 9 | 18 |
| 1507 | C | 4 | 7 | 18 |
| 1516 | A | 10 | 9 | 8 |
| 1531 | B | 7 | 7 | 13 |
| 1539 | C | 4 | 5 | 55 |
| 1548 | A | 8 | 7 | 8 |

Note: – = No sample taken.

Table 59

Suspended Sediment Concentration Data Observed at

Range 3, 26 October 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 705 | A | 13 | 25 | 16 |
| 715 | B | 8 | 15 | 18 |
| 727 | C | 7 | 8 | 28 |
| 735 | D | 14 | 8 | 11 |
| 804 | A | 8 | 7 | 13 |
| 807 | B | 7 | 6 | 35 |
| 816 | C | 5 | 6 | 13 |
| 821 | D | 2 | 5 | 29 |
| 832 | X | 5 | – | 8 |
| 839 | A | 7 | 8 | 11 |
| 845 | B | 7 | 6 | 7 |
| 855 | C | 8 | 12 | 17 |
| 859 | D | 4 | 5 | 7 |
| 909 | X | 5 | – | 8 |
| 916 | A | 4 | 14 | 18 |
| 921 | B | 6 | 8 | 7 |
| 929 | C | 7 | 14 | 28 |
| 935 | D | 8 | 14 | 36 |
| 944 | X | 6 | – | 5 |
| 951 | A | 6 | 17 | 50 |
| 956 | B | 10 | 8 | 8 |
| 1004 | C | 11 | 11 | 24 |
| 1009 | D | 8 | 11 | 28 |
| 1016 | A | 5 | 7 | 32 |
| 1023 | B | 8 | 4 | 14 |
| 1029 | C | 6 | 10 | 25 |
| 1036 | D | 16 | 8 | 30 |
| 1101 | A | 4 | 6 | 27 |
| 1106 | B | 5 | 3 | 7 |
| 1115 | C | 6 | 11 | 28 |
| 1120 | D | 5 | 8 | 46 |
| 1201 | A | 3 | 4 | 12 |
| 1207 | B | 4 | 4 | 6 |
| 1217 | C | 6 | 7 | 38 |
| 1223 | D | 7 | 12 | 52 |
| 1301 | A | 5 | 4 | 10 |
| 1307 | B | 8 | 6 | 7 |
| 1315 | C | 4 | 9 | 41 |
| 1322 | D | 6 | 37 | 43 |

(Continued)

Note: – = No sample taken.

Table 59 (Concluded)

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 1401 | A | 5 | 4 | 10 |
| 1407 | B | 11 | 10 | 9 |
| 1416 | C | 8 | 29 | 35 |
| 1421 | D | 8 | 11 | 40 |
| 1501 | A | 5 | 9 | 35 |
| 1506 | B | 9 | 8 | 19 |
| 1514 | C | 5 | 11 | 30 |
| 1519 | D | 6 | 9 | 28 |
| 1533 | A | 5 | 21 | 25 |
| 1538 | B | 5 | 9 | 23 |
| 1547 | C | 8 | 27 | 24 |
| 1552 | D | 19 | 7 | 29 |

Table 60

Susupended Sediment Concentration Data Observed at

Range 1, 11 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 732 | A | 25 | 12 | 80 |
| 742 | B | 13 | 24 | 515 |
| 752 | C | 12 | 48 | 238 |
| 808 | A | 15 | 25 | 24 |
| 817 | B | 11 | 16 | 455 |
| 825 | C | 15 | 12 | 186 |
| 903 | A | 29 | 129 | 194 |
| 913 | B | 26 | 11 | 380 |
| 921 | C | 12 | 23 | 196 |
| 1002 | A | 11 | 23 | 202 |
| 1011 | B | 5 | 24 | 250 |
| 1019 | C | 17 | 20 | 124 |
| 1102 | A | 13 | 17 | 222 |
| 1111 | B | 9 | 15 | 107 |
| 1119 | C | 15 | 17 | 86 |
| 1202 | A | 17 | 29 | 70 |
| 1208 | B | 15 | 17 | 46 |
| 1217 | C | 17 | 14 | 35 |
| 1305 | A | 13 | 15 | 20 |
| 1314 | B | 14 | 22 | 36 |
| 1323 | C | 13 | 15 | 27 |
| 1402 | A | 14 | 13 | 13 |
| 1410 | B | 12 | 16 | 26 |
| 1417 | C | 12 | 15 | 112 |
| 1503 | A | 12 | 14 | 17 |
| 1511 | B | 13 | 16 | 24 |
| 1520 | C | 16 | 17 | 24 |
| 1604 | A | 11 | 7 | 13 |
| 1616 | B | 12 | 22 | 15 |
| 1616 | C | 8 | 14 | 18 |

Table 61

Suspended Sediment Concentration Data Observed at

Range 2, 11 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 724 | B | 21 | 19 | 43 |
| 732 | C | 19 | 38 | 40 |
| 742 | A | 72 | 76 | 79 |
| 802 | B | 25 | 18 | 55 |
| 812 | C | 14 | 31 | 88 |
| 822 | A | 86 | 91 | 93 |
| 902 | B | 27 | 23 | 72 |
| 908 | C | 23 | 19 | 74 |
| 922 | A | 90 | 88 | 90 |
| 1002 | B | 30 | 39 | 56 |
| 1010 | C | 29 | 31 | 188 |
| 1020 | A | 97 | 99 | 90 |
| 1102 | B | 19 | 35 | 110 |
| 1108 | C | 22 | 25 | 125 |
| 1123 | A | 62 | 66 | 64 |
| 1204 | B | 66 | 25 | 19 |
| 1212 | C | 48 | 17 | 168 |
| 1226 | A | 61 | 64 | 73 |
| 1302 | B | 16 | 19 | 62 |
| 1313 | C | 11 | 15 | 41 |
| 1322 | A | 26 | 32 | 65 |
| 1402 | B | 17 | 87 | 37 |
| 1414 | C | 12 | 14 | 19 |
| 1425 | A | 20 | 23 | 29 |
| 1502 | B | 13 | 14 | 49 |
| 1509 | C | 13 | 31 | 99 |
| 1517 | A | 15 | 17 | 12 |
| 1602 | B | 10 | 15 | 23 |
| 1612 | C | 11 | 13 | 33 |
| 1622 | A | 14 | 13 | 14 |

Table 62

Suspended Sediment Concentration Data Observed at

Range 3, 11 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 705 | A | 26 | 30 | 21 |
| 711 | B | 57 | 40 | 66 |
| 728 | C | 18 | 20 | 21 |
| 736 | D | 16 | 18 | 20 |
| 801 | A | 28 | 59 | 24 |
| 807 | B | 58 | 56 | 79 |
| 816 | C | 19 | 16 | 19 |
| 825 | D | 21 | 16 | 19 |
| 903 | A | 54 | 15 | 19 |
| 907 | B | 56 | 60 | 51 |
| 915 | C | 14 | 17 | 20 |
| 921 | D | 21 | 18 | 17 |
| 948 | A | 49 | 49 | 32 |
| 952 | B | 60 | 81 | 92 |
| 959 | C | 38 | 17 | 20 |
| 1004 | D | 16 | 18 | 34 |
| 1021 | A | 61 | 49 | 42 |
| 1026 | B | 61 | 90 | 106 |
| 1035 | C | 19 | 22 | 27 |
| 1041 | D | 23 | 19 | 20 |
| 1102 | A | 30 | 47 | 41 |
| 1107 | B | 57 | 74 | 101 |
| 1115 | C | 19 | 21 | 23 |
| 1121 | D | 23 | 32 | 36 |
| 1201 | A | 57 | 42 | 33 |
| 1206 | B | 50 | 59 | 72 |
| 1216 | C | 19 | 22 | 26 |
| 1222 | D | 20 | 25 | 42 |
| 1301 | A | 39 | 32 | 24 |
| 1307 | B | 50 | 47 | 62 |
| 1316 | C | 16 | 19 | 21 |
| 1322 | D | 19 | 15 | 23 |
| 1401 | A | 38 | 30 | 35 |
| 1407 | B | 62 | 37 | 65 |
| 1416 | C | 16 | 34 | 23 |
| 1423 | D | 15 | 17 | 112 |
| 1501 | A | 31 | 27 | 46 |
| 1509 | B | 61 | 36 | 58 |
| 1520 | C | 16 | 34 | 38 |
| 1535 | D | 14 | 12 | 18 |
| 1601 | A | 42 | 36 | 18 |
| 1606 | B | 53 | 31 | 29 |
| 1616 | C | 24 | 21 | 126 |
| 1623 | D | 14 | 13 | 17 |

Table 63

Suspended Sediment Concentration Data Observed at

Range 1, 27 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 743 | A | 22 | 21 | 44 |
| 751 | B | 16 | 13 | 147 |
| 757 | C | 22 | 14 | 172 |
| 804 | A | 13 | 20 | 113 |
| 810 | B | 9 | 15 | 335 |
| 815 | C | 15 | 17 | 265 |
| 902 | A | 15 | 36 | 363 |
| 911 | B | 8 | 19 | 454 |
| 917 | C | 10 | 32 | 247 |
| 1002 | A | 20 | 33 | 216 |
| 1007 | B | 4 | 13 | 320 |
| 1015 | C | 10 | 32 | 72 |
| 1102 | A | 25 | 39 | 144 |
| 1111 | B | 12 | 40 | 308 |
| 1117 | C | 14 | 27 | 312 |
| 1204 | A | 48 | 78 | 148 |
| 1209 | B | 17 | 34 | 236 |
| 1215 | C | 20 | 34 | 228 |
| 1303 | A | 47 | 46 | 106 |
| 1308 | B | 22 | 38 | 262 |
| 1314 | C | 21 | 37 | 189 |
| 1401 | A | 31 | 52 | 58 |
| 1405 | B | 21 | 38 | 180 |
| 1410 | C | 43 | 24 | 167 |
| 1502 | A | 21 | 28 | 39 |
| 1511 | B | 17 | 30 | 68 |
| 1519 | C | 15 | 17 | 54 |

Table 64

Suspended Sediment Concentration Data Observed at

Range 2, 27 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ | | |
|---|---|---|---|---|
| | | Surface | Middepth | Bottom |
| 722 | B | 8 | 16 | 26 |
| 728 | C | 8 | 12 | 15 |
| 737 | A | 9 | 10 | 13 |
| 802 | B | 7 | 23 | 22 |
| 809 | C | 8 | 16 | 46 |
| 817 | A | 5 | 9 | 12 |
| 902 | B | 12 | 17 | 22 |
| 910 | C | 9 | 11 | 29 |
| 918 | A | 25 | 25 | 21 |
| 1003 | B | 16 | 45 | 126 |
| 1009 | C | 11 | 22 | 44 |
| 1003 | A | 21 | 12 | 16 |
| 1108 | B | 19 | 22 | 40 |
| 1113 | C | 21 | 72 | 138 |
| 1122 | A | 190 | 184 | 224 |
| 1206 | B | 50 | 104 | 450 |
| 1214 | C | 36 | 32 | 124 |
| 1224 | A | 120 | 214 | 224 |
| 1302 | B | 58 | 76 | 280 |
| 1310 | C | 60 | 70 | 101 |
| 1317 | A | 247 | 243 | 245 |
| 1402 | B | 110 | 122 | 155 |
| 1410 | C | 61 | 43 | 190 |
| 1417 | A | 204 | 197 | 200 |
| 1500 | A | 259 | 250 | 252 |
| 1506 | B | 75 | 172 | 210 |
| 1513 | C | 58 | 46 | 243 |

Table 65

Suspended Sediment Concentration Data Observed at

Range 3, 27 November 1988

| Hour CST | Sta No. | Concentration, mg/ℓ Surface | Middepth | Bottom |
|---|---|---|---|---|
| 715 | A | 14 | 22 | 38 |
| 726 | B | 14 | 41 | 53 |
| 742 | C | 13 | 22 | 129 |
| 749 | D | 16 | 19 | 24 |
| 801 | A | 12 | 15 | 32 |
| 807 | B | 14 | 12 | 46 |
| 822 | C | 13 | 200 | 1630 |
| 828 | D | 13 | 30 | 438 |
| 901 | A | 38 | 43 | 100 |
| 907 | B | 25 | 31 | 156 |
| 915 | C | 14 | 38 | 71 |
| 923 | D | 49 | 40 | 156 |
| 1001 | A | – | 29 | 53 |
| 1046 | C | 20 | 44 | 87 |
| 1055 | D | 27 | 44 | 71 |
| 1131 | C | 24 | 40 | 69 |
| 1139 | D | 25 | 38 | 57 |
| 1231 | C | 24 | 34 | 54 |
| 1236 | D | 28 | 35 | 44 |
| 1331 | C | 54 | 99 | 127 |
| 1343 | D | 39 | 202 | 131 |
| 1433 | C | 43 | 84 | 107 |
| 1443 | D | 48 | 144 | 122 |
| 1454 | A | 82 | 63 | 88 |
| 1501 | B | 82 | 68 | 104 |
| 1516 | C | 33 | 77 | 223 |
| 1524 | D | 29 | 95 | 242 |

Table 66

Automatic Sampler Suspended Sediment Concentration

Data, 26 October 1988

| Hour CST | Suspended Sediment Concentration, mg/ℓ AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 8 | 8 |
| 0730 | 5 | 6 |
| 0800 | 8 | 8 |
| 0830 | 7 | 7 |
| 0900 | 7 | 9 |
| 0930 | 7 | 7 |
| 1000 | 5 | 8 |
| 1030 | 5 | 10 |
| 1100 | 4 | 9 |
| 1130 | 6 | 8 |
| 1200 | 6 | 10 |
| 1230 | 6 | 8 |
| 1300 | 5 | 11 |
| 1330 | 6 | 12 |
| 1400 | 8 | 16 |
| 1430 | 9 | 37 |
| 1500 | 10 | 63 |
| 1530 | 9 | 37 |
| 1600 | 7 | 52 |
| 1630 | 7 | 28 |
| 1700 | 8 | 22 |
| 1730 | 8 | 22 |
| 1800 | 8 | 40 |
| 1830 | 6 | 40 |

Table 67

Automatic Sampler Suspended Sediment Concentration Data, 28 October–9 November 1988

| Date | Suspended Sediment Concentration, mg/ℓ AWS-2 | AWS-1 |
|---|---|---|
| 10/28 | 7 | 12 |
| 10/29 | 8 | 12 |
| 10/29 | 2 | 11 |
| 10/30 | 4 | 8 |
| 10/30 | 3 | 20 |
| 10/31 | 7 | 8 |
| 10/31 | 2 | 59 |
| 11/01 | 21 | 81 |
| 11/01 | 3 | 115 |
| 11/02 | 41 | 96 |
| 11/02 | 6 | 30 |
| 11/03 | 7 | 22 |
| 11/03 | 5 | 35 |
| 11/04 | 11 | 19 |
| 11/04 | 5 | 18 |
| 11/05 | 32 | 57 |
| 11/05 | 3 | 46 |
| 11/06 | 5 | 61 |
| 11/06 | 5 | 151 |
| 11/07 | 8 | 92 |
| 11/07 | 14 | 25 |
| 11/08 | 4 | 81 |
| 11/08 | 7 | 15 |
| 11/09 | 2 | 22 |

Table 68

Automatic Sampler Suspended Sediment Concentration

Data, 11 November 1988

| Hour CST | Suspended Sediment Concentration, mg/ℓ AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 50 | 177 |
| 0730 | 51 | 150 |
| 0800 | 60 | 165 |
| 0830 | 54 | 171 |
| 0900 | 62 | 161 |
| 0930 | 77 | 186 |
| 1000 | 80 | 163 |
| 1030 | 71 | 154 |
| 1100 | 74 | 163 |
| 1130 | 75 | 139 |
| 1200 | 62 | 123 |
| 1230 | 66 | 133 |
| 1300 | 66 | 118 |
| 1330 | 57 | 107 |
| 1400 | 45 | 118 |
| 1430 | 57 | 119 |
| 1500 | 62 | 122 |
| 1530 | 62 | 108 |
| 1600 | 61 | 110 |
| 1630 | 62 | 80 |
| 1700 | 58 | 75 |
| 1730 | 64 | 83 |
| 1800 | 58 | 69 |
| 1830 | 55 | 69 |

Table 69

Automatic Sampler Suspended Sediment Concentration

Data, 14–25 November 1988

| Date | Suspended Sediment Concentration, mg/ℓ AWS-2 | AWS-1* |
|---|---|---|
| 11/13 | 7 | |
| 11/14 | 4 | |
| 11/14 | 14 | |
| 11/15 | 9 | |
| 11/15 | 25 | |
| 11/16 | 7 | |
| 11/16 | 20 | |
| 11/17 | 12 | |
| 11/17 | 61 | |
| 11/18 | 100 | |
| 11/18 | 111 | |
| 11/19 | 91 | |
| 11/19 | 44 | |
| 11/20 | 27 | |
| 11/20 | 45 | |
| 11/21 | 74 | |
| 11/21 | 211 | |
| 11/22 | 112 | |
| 11/22 | 140 | |
| 11/23 | 117 | |
| 11/23 | 59 | |
| 11/24 | 42 | |
| 11/24 | 33 | |
| 11/25 | 22 | |

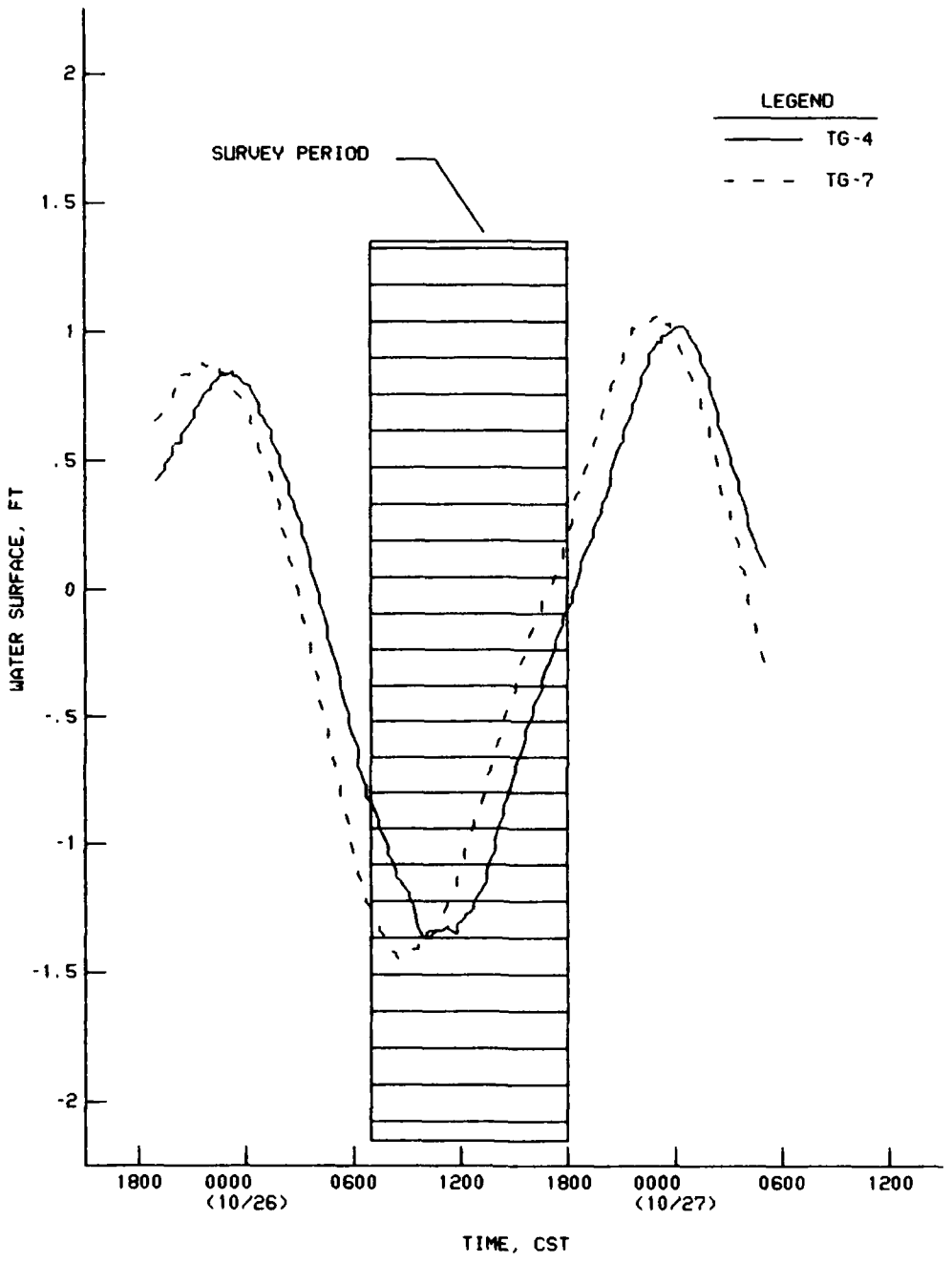
* No samples available due to instrument malfunction.

Table 70

Automatic Sampler Suspended Sediment Concentration

Data, 27 November 1988

| Hour CST | Suspended Sediment Concentration, mg/ℓ AWS-2 | AWS-1 |
|---|---|---|
| 0700 | 4 | 34 |
| 0730 | 1 | 48 |
| 0800 | 1 | 52 |
| 0830 | 13 | 41 |
| 0900 | 24 | 73 |
| 0930 | 8 | 68 |
| 1000 | 22 | 44 |
| 1030 | 18 | 49 |
| 1100 | 151 | 53 |
| 1130 | 227 | 83 |
| 1200 | 202 | 78 |
| 1230 | 283 | 88 |
| 1300 | 233 | 81 |
| 1330 | 223 | 91 |
| 1400 | 190 | 106 |
| 1430 | 192 | 94 |
| 1500 | 230 | 88 |
| 1530 | 187 | 90 |
| 1600 | 232 | 81 |
| 1630 | 213 | 79 |
| 1700 | 213 | 80 |
| 1730 | 199 | 85 |
| 1800 | 193 | 66 |
| 1830 | 189 | 59 |

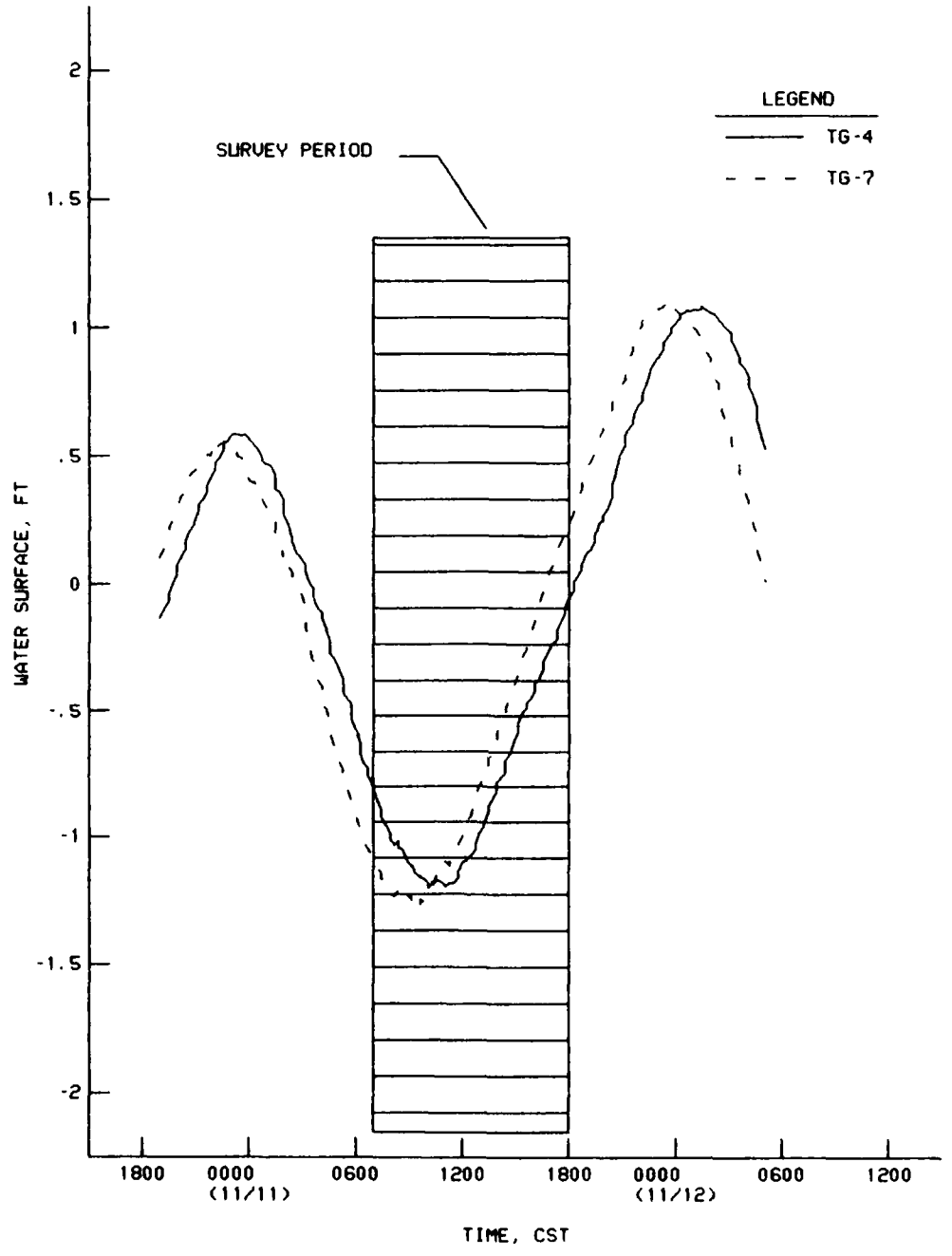



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-4 AND TG-7

**25-27 OCTOBER 1988**

PLATE 1

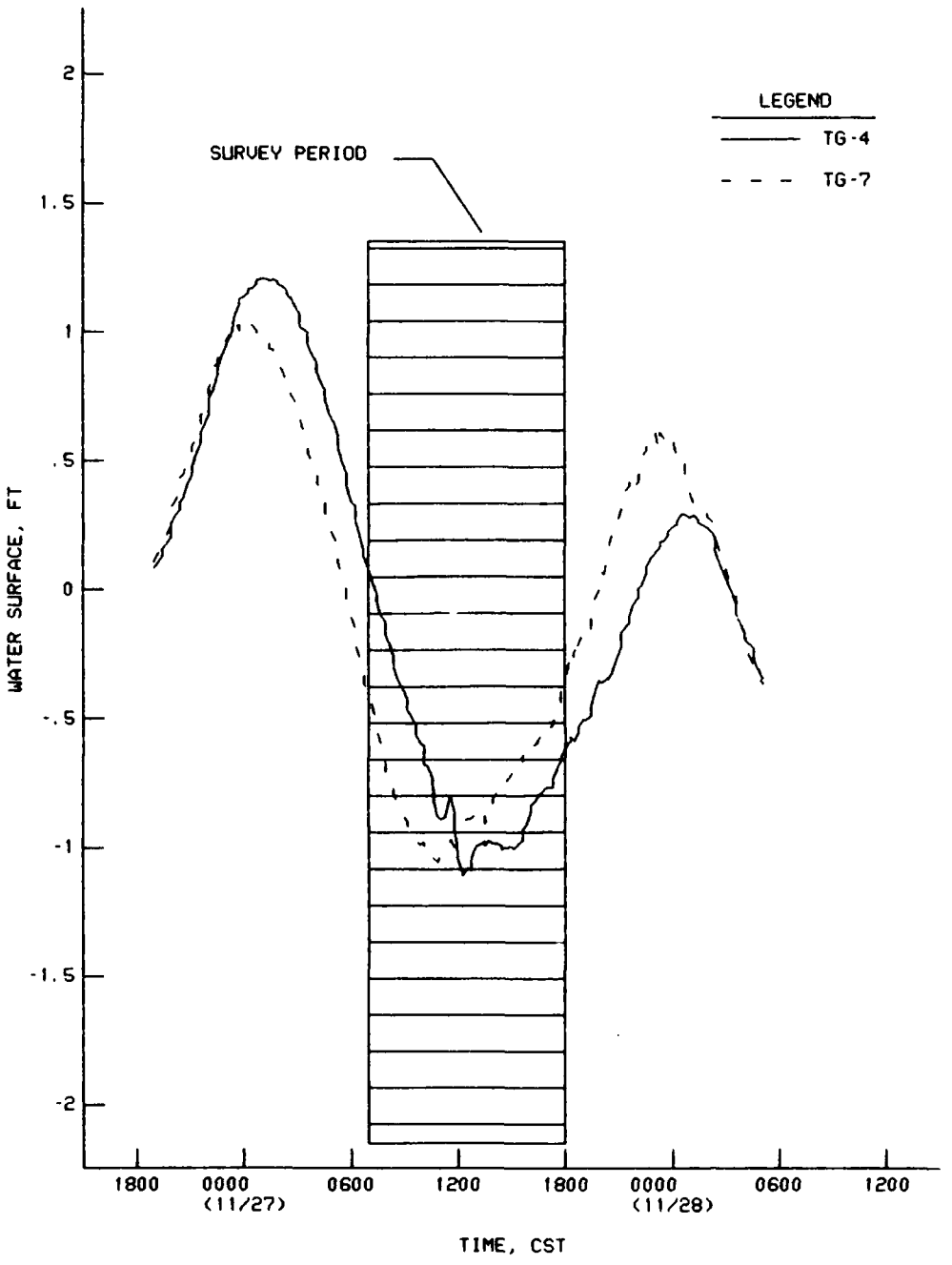



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-4 AND TG-7

10-12 NOVEMBER 1988

PLATE 2

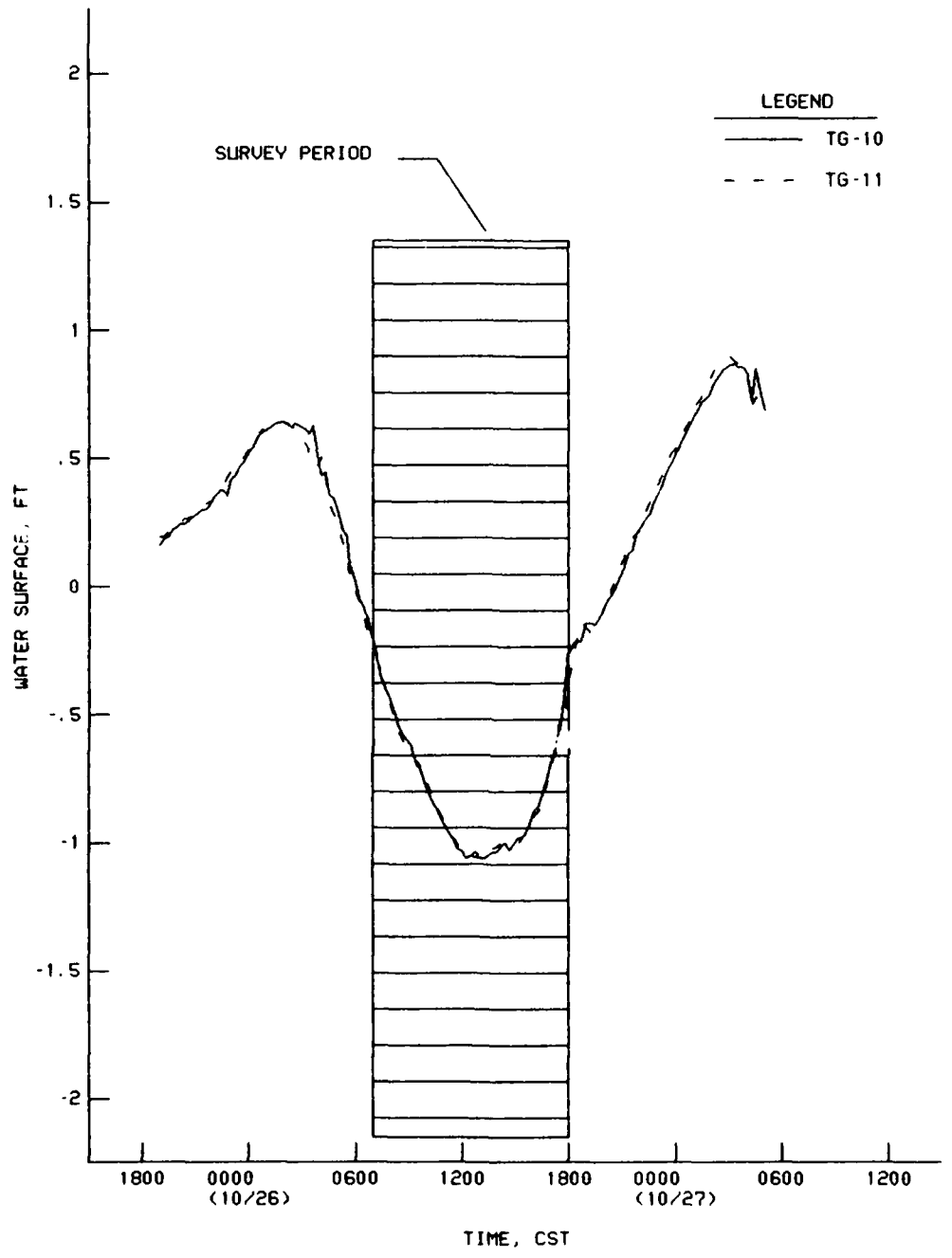



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-4 AND TG-7

**26-28 NOVEMBER 1988**

PLATE 3

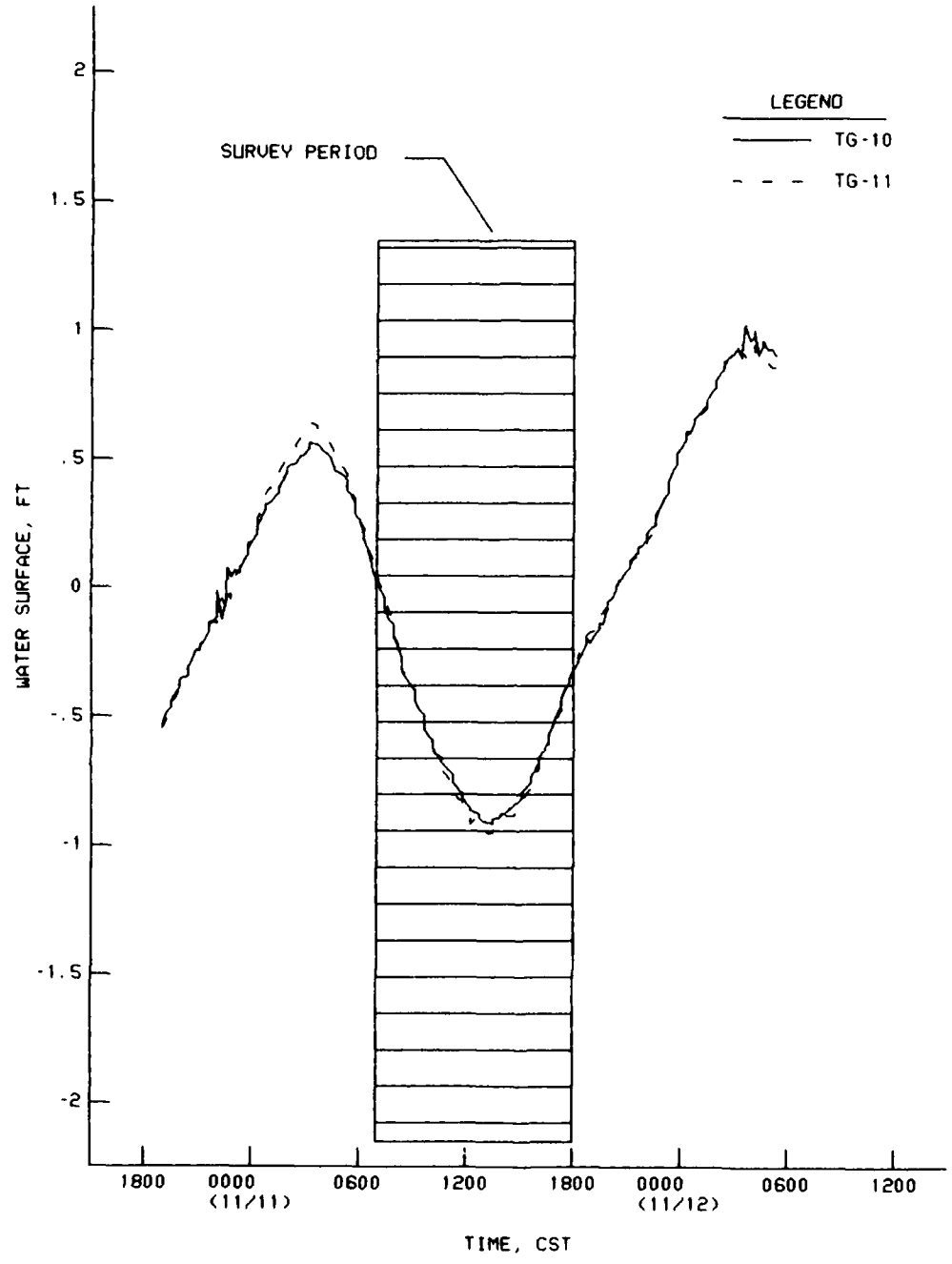



NOTE: MEAN WATER LEVEL READING USED AS DATUM

## WATER-SURFACE ELEVATIONS GAGES TG-10 AND TG-11

**25-27 OCTOBER 1988**

PLATE 4

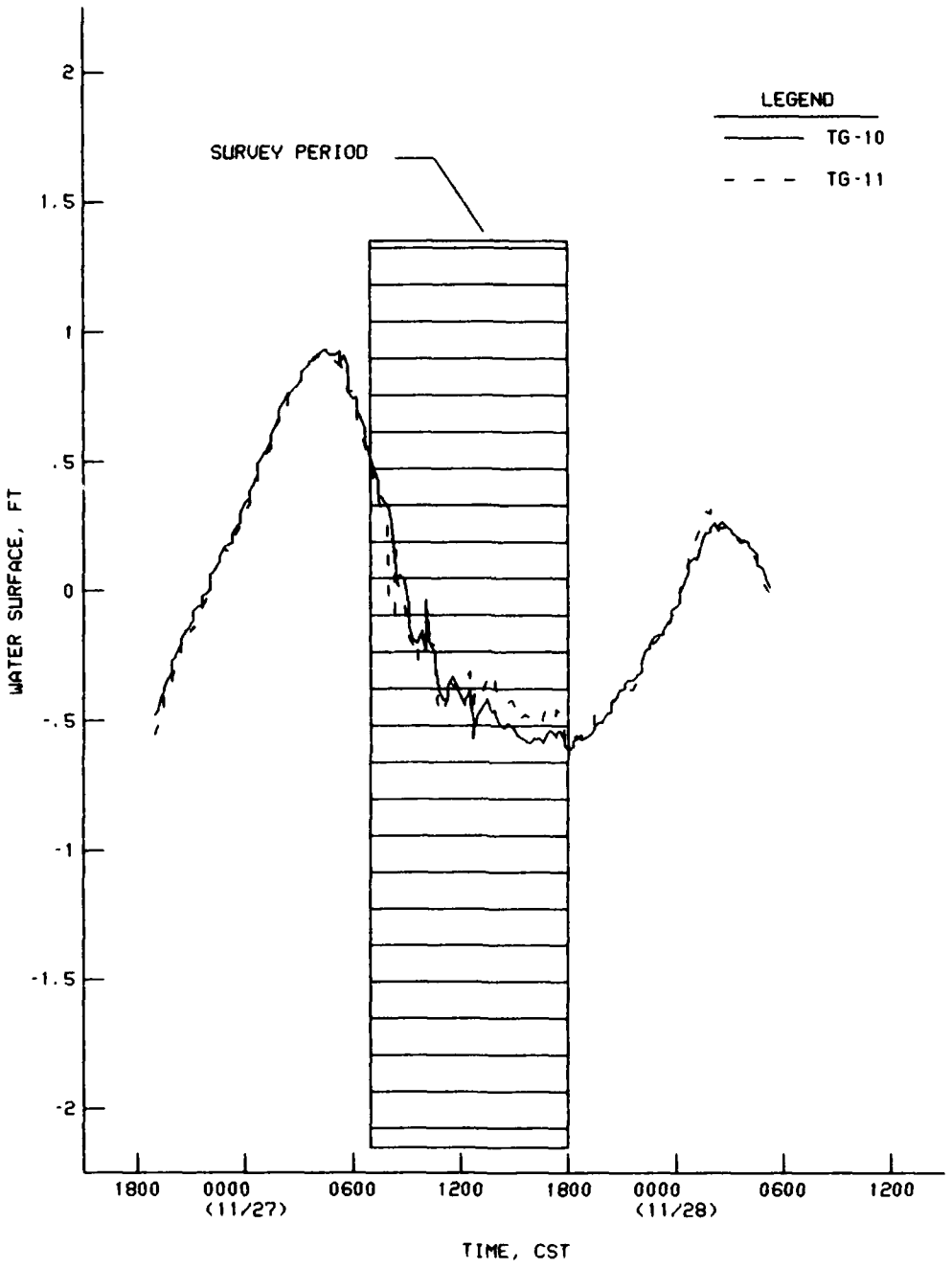



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-10 AND TG-11

**10-12 NOVEMBER 1988**

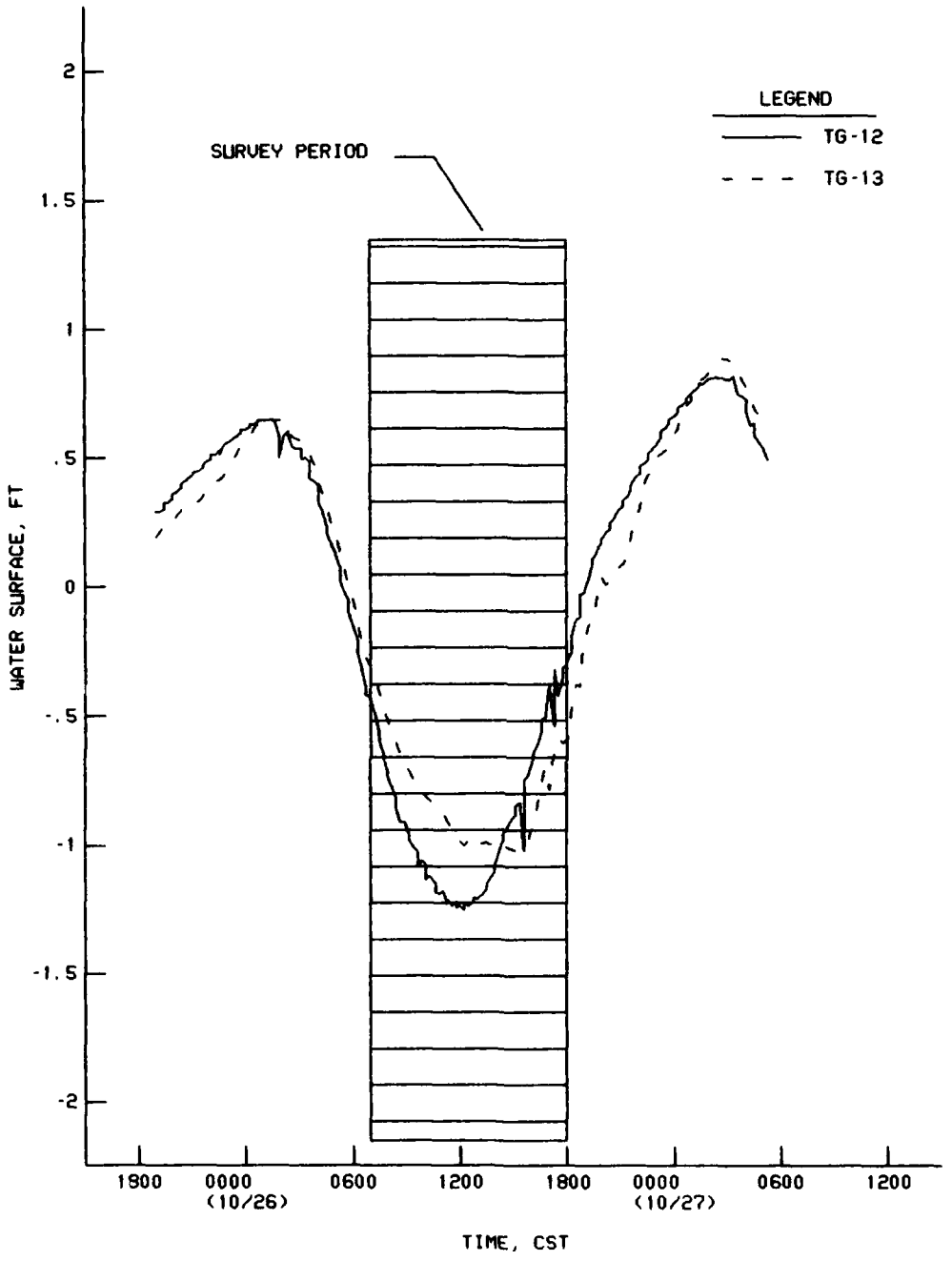
PLATE 5




NOTE: MEAN WATER LEVEL READING USED AS DATUM

## WATER-SURFACE ELEVATIONS
## GAGES TG-10 AND TG-11
**26-28 NOVEMBER 1988**

PLATE 6

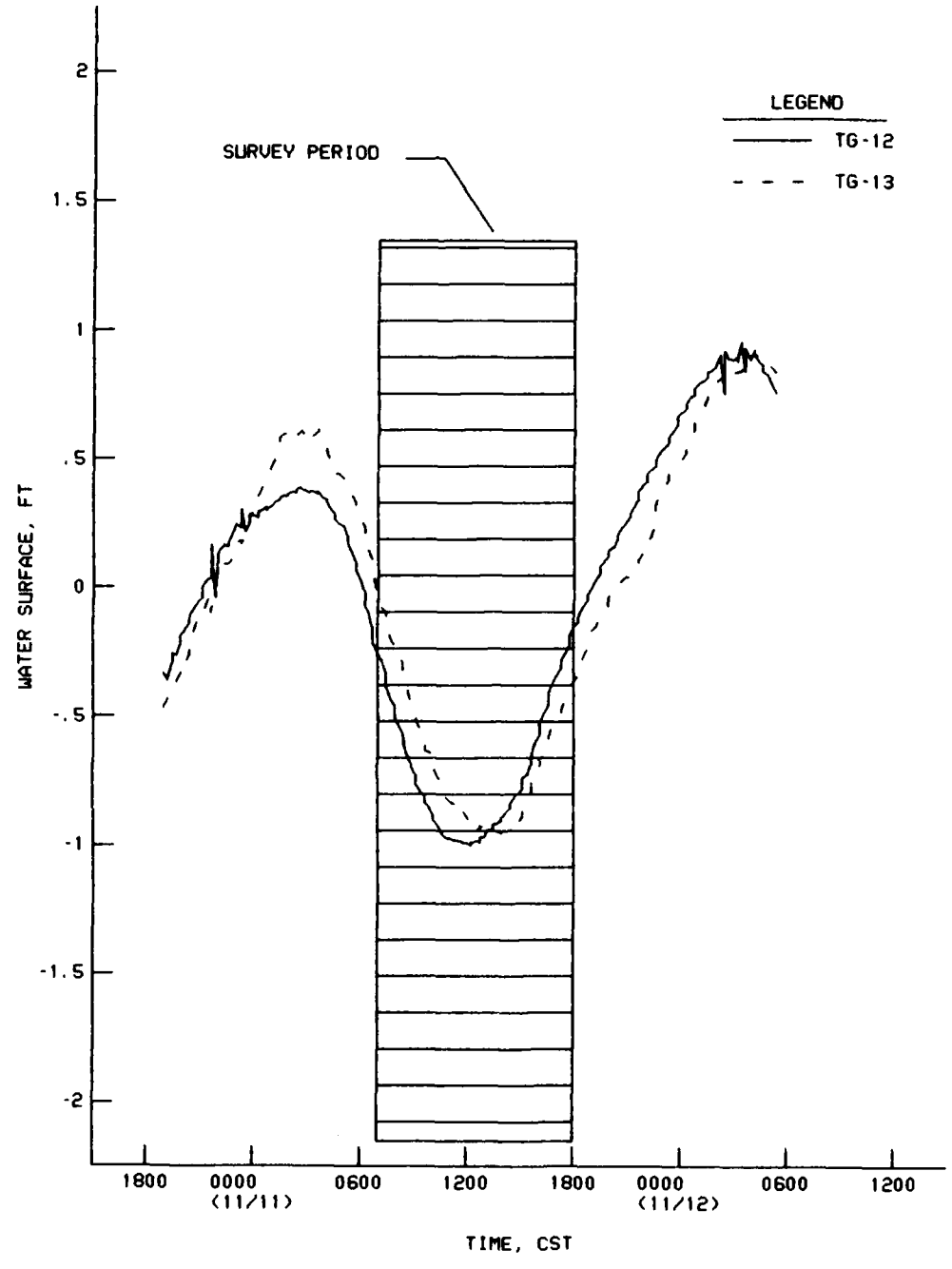



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-12 AND TG-13

**25-27 OCTOBER 1988**

PLATE 7

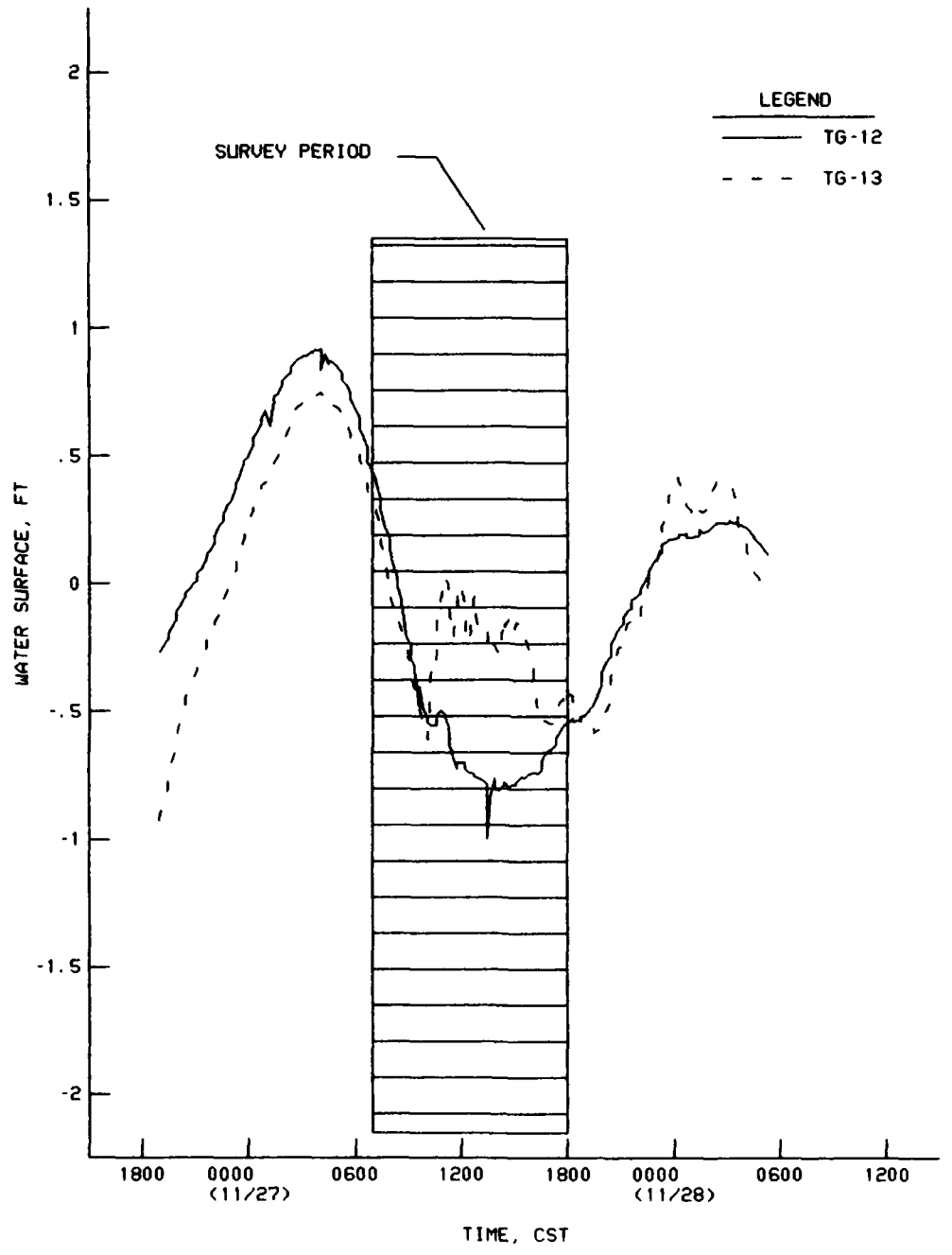



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-12 AND TG-13

10-12 NOVEMBER 1988

PLATE 8

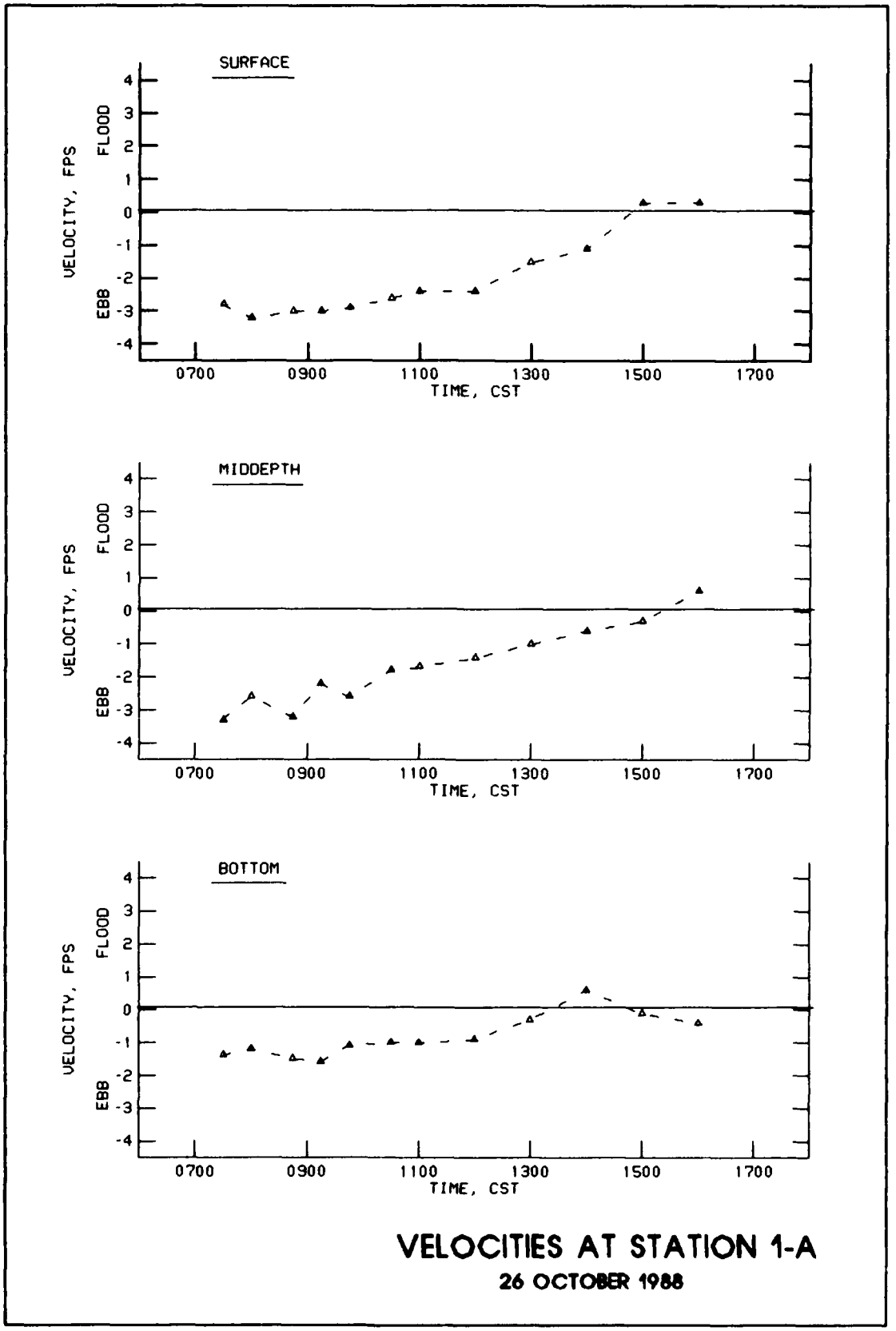



NOTE: MEAN WATER LEVEL READING USED AS DATUM

# WATER-SURFACE ELEVATIONS GAGES TG-12 AND TG-13

**26-28 NOVEMBER 1988**

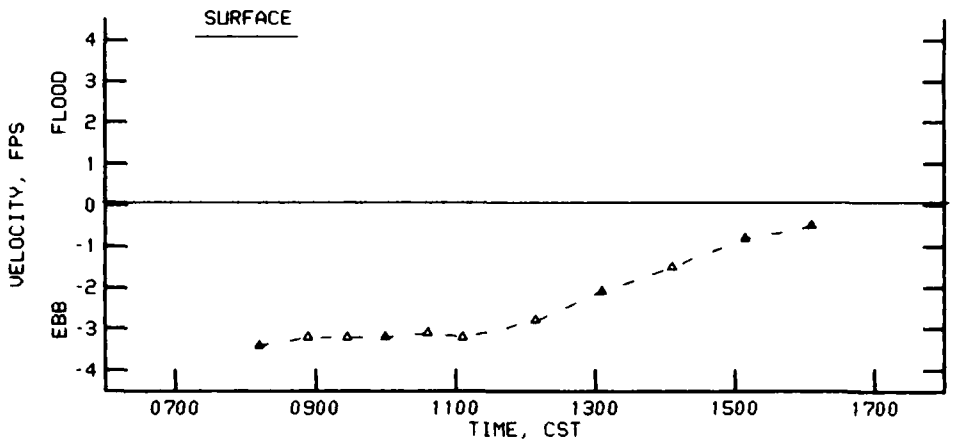
PLATE 9

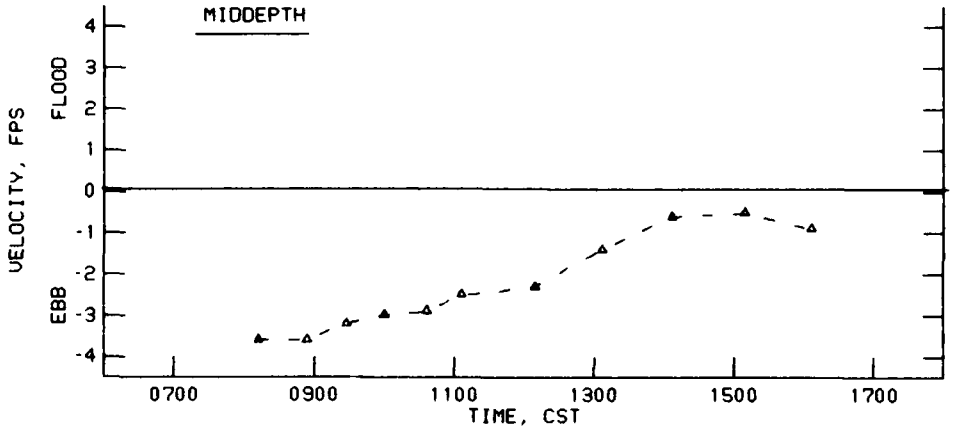


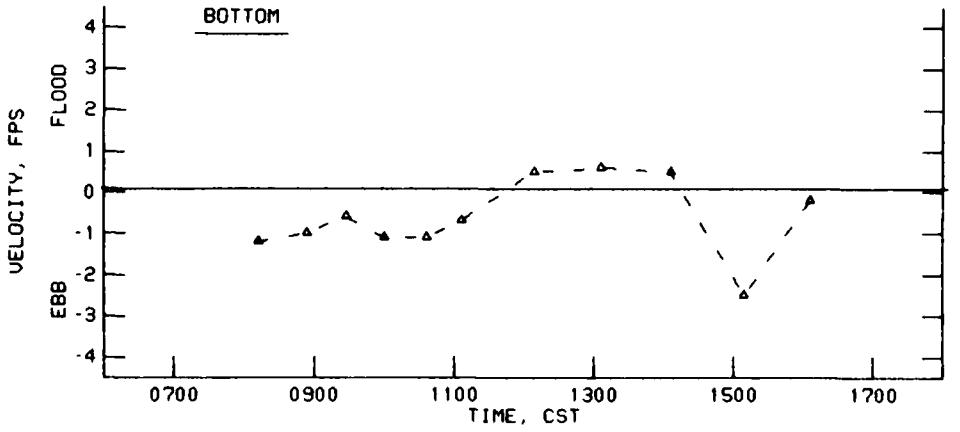

**VELOCITIES AT STATION 1-A**

**26 OCTOBER 1988**

PLATE 10



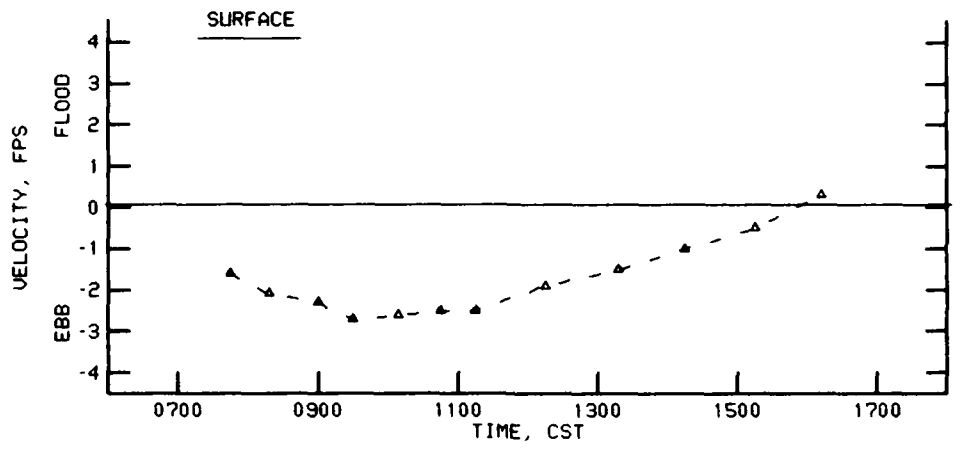



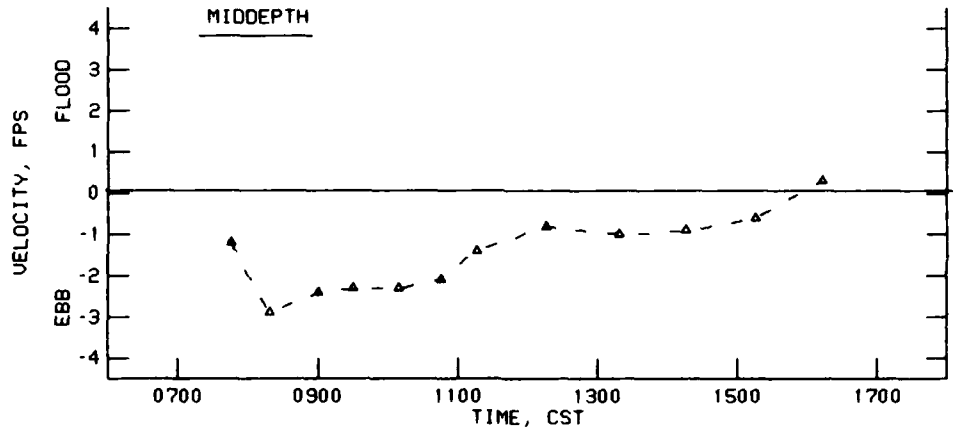



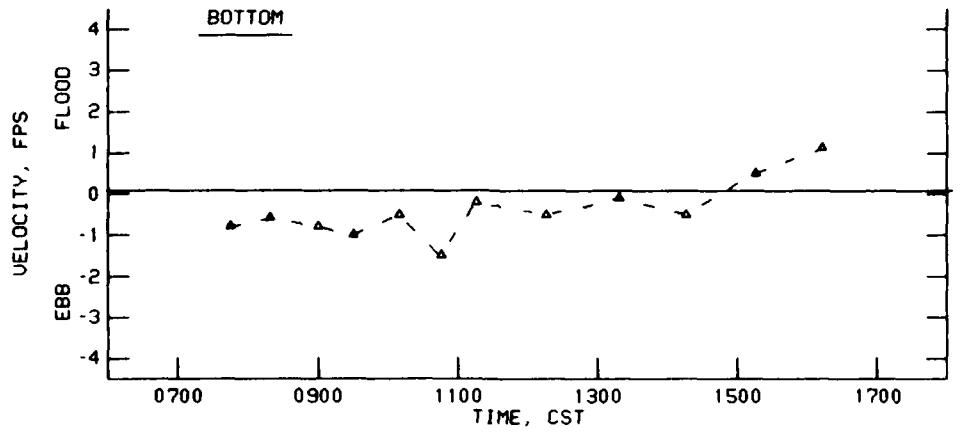

# VELOCITIES AT STATION 1-B

**26 OCTOBER 1988**

PLATE 11



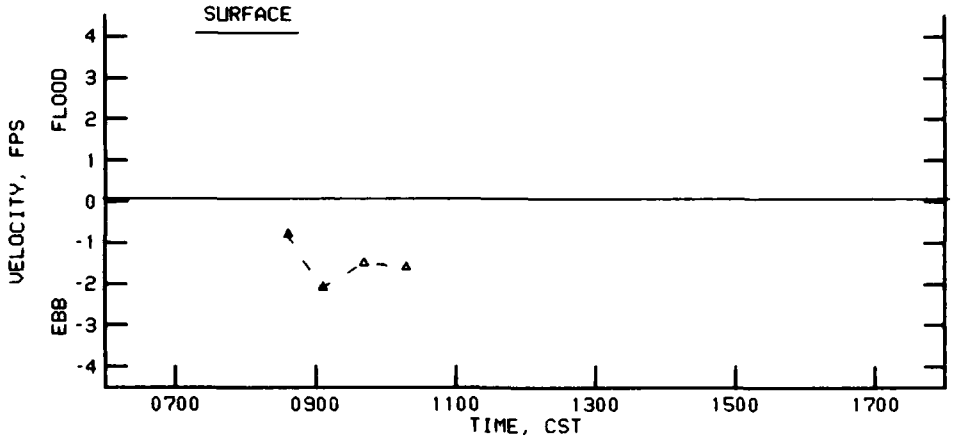



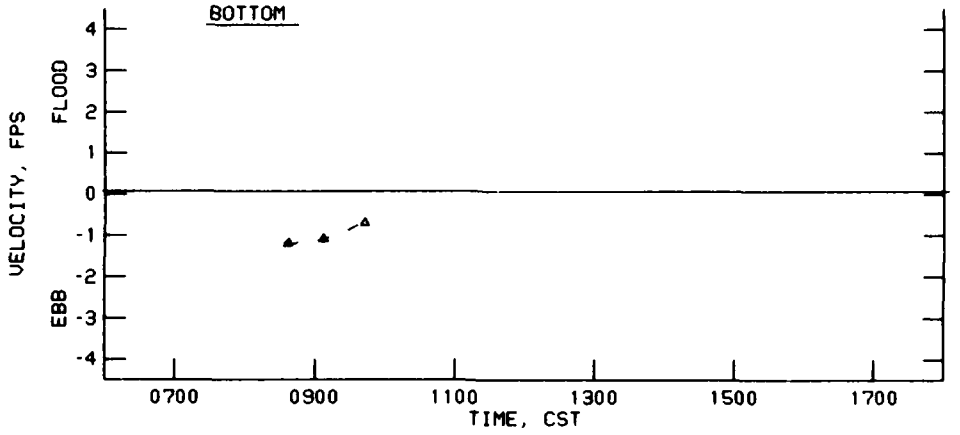




# VELOCITIES AT STATION 1-C

**26 OCTOBER 1988**

PLATE 12

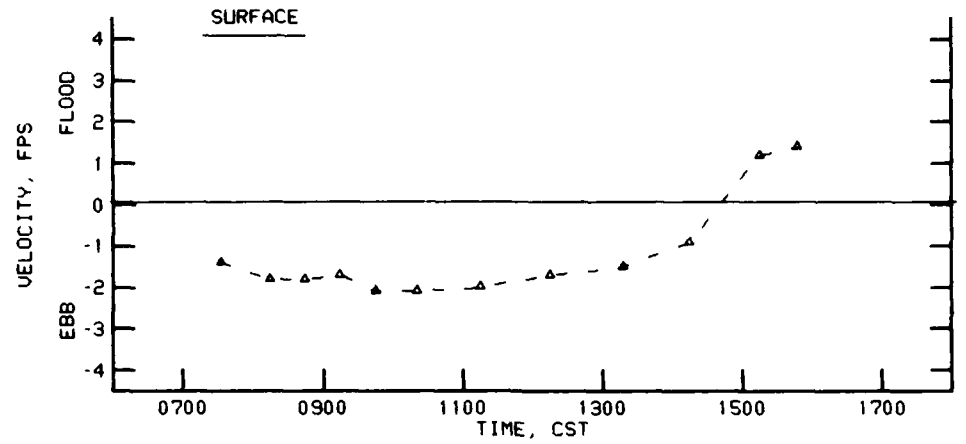


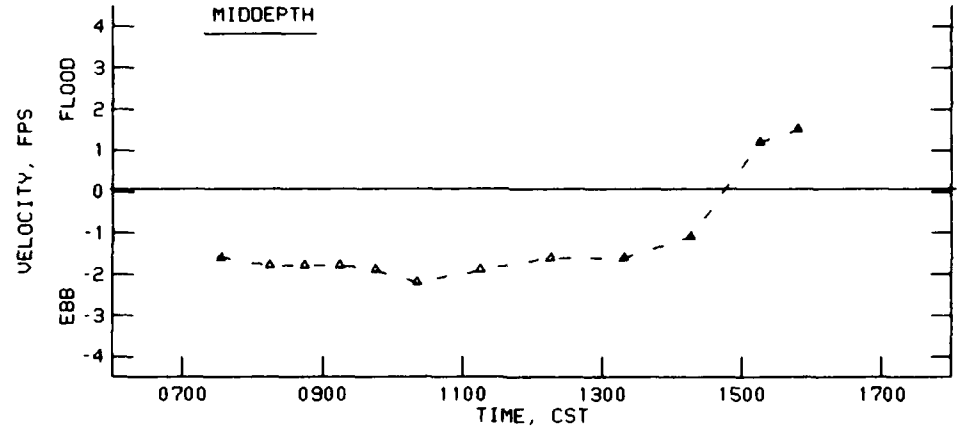



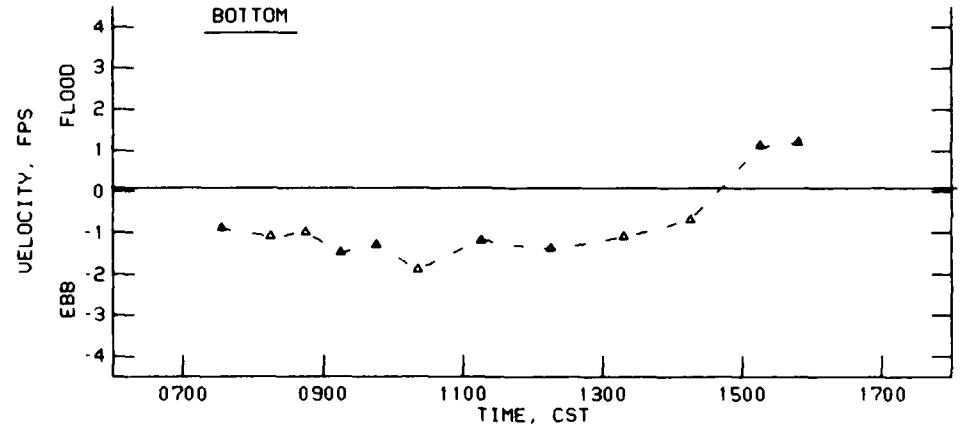

# VELOCITIES AT STATION 1-X

**26 OCTOBER 1988**

PLATE 13



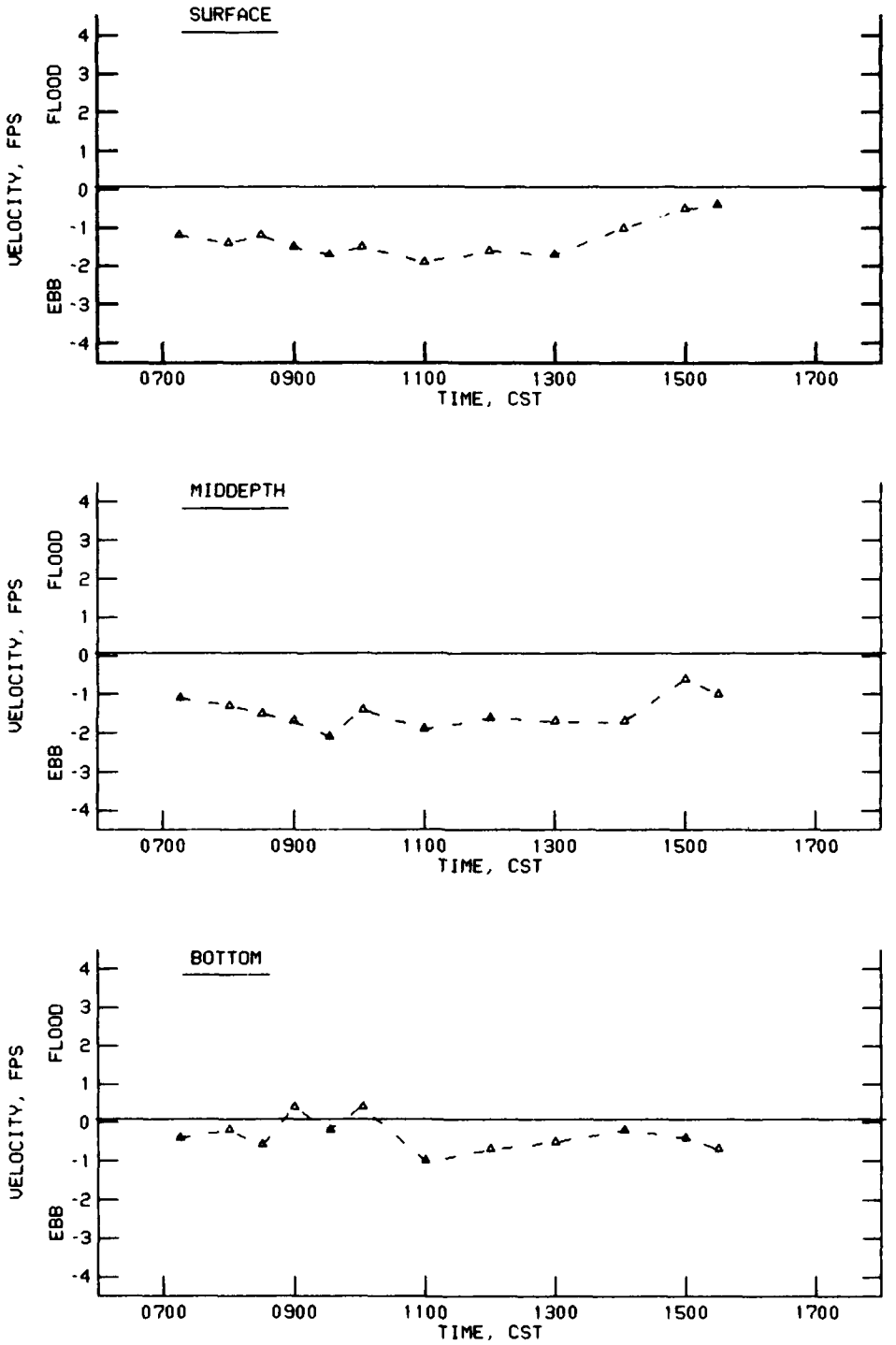




## VELOCITIES AT STATION 2-A

**26 OCTOBER 1988**

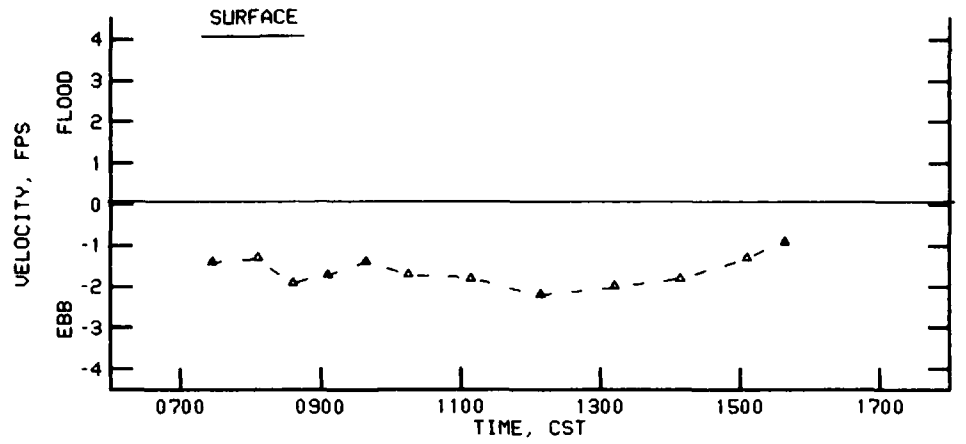
PLATE 14

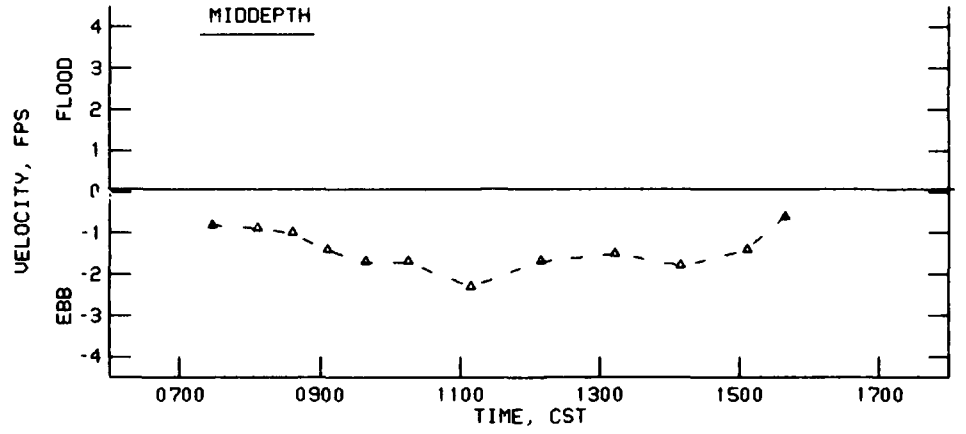


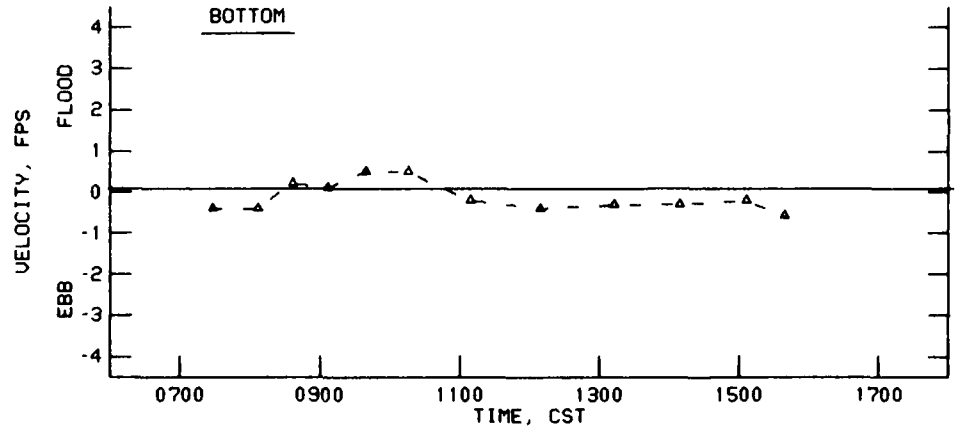

# VELOCITIES AT STATION 2-B

**26 OCTOBER 1988**

PLATE 15



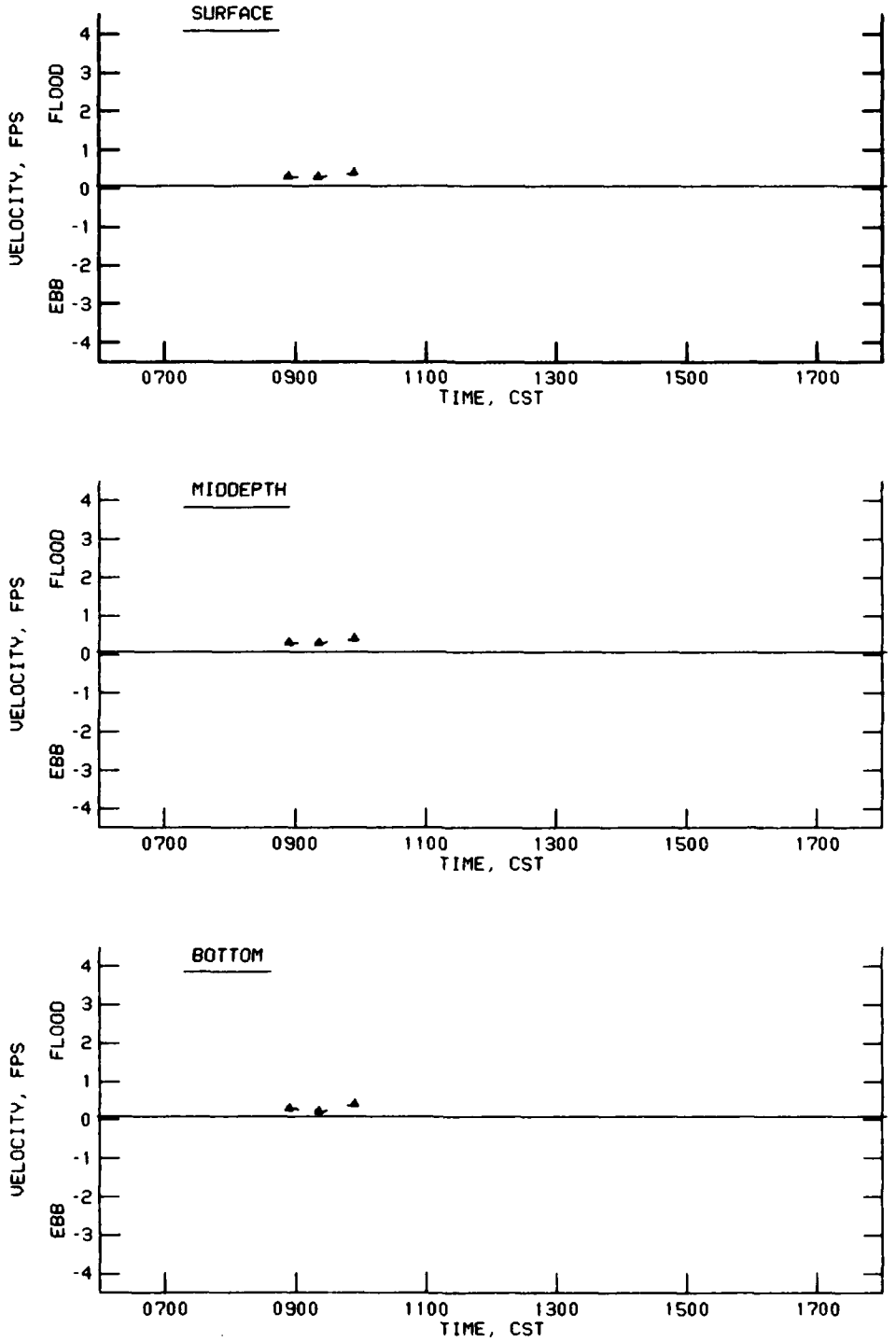




## VELOCITIES AT STATION 2-C

**26 OCTOBER 1988**

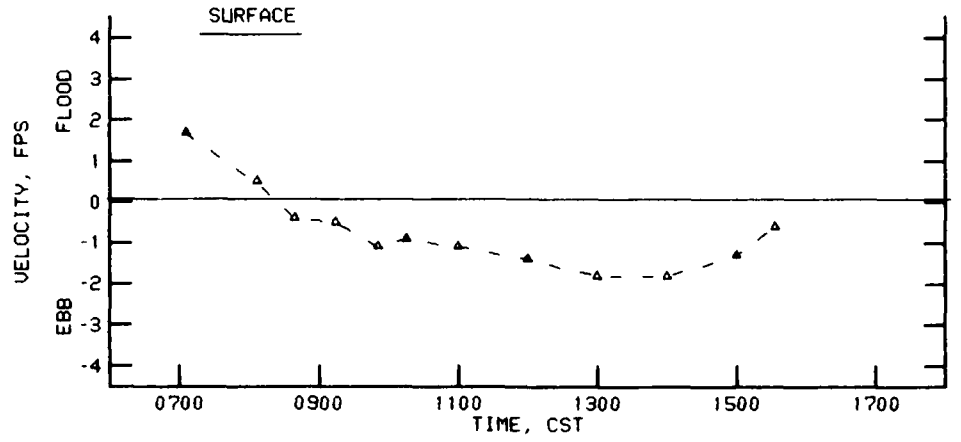
PLATE 16

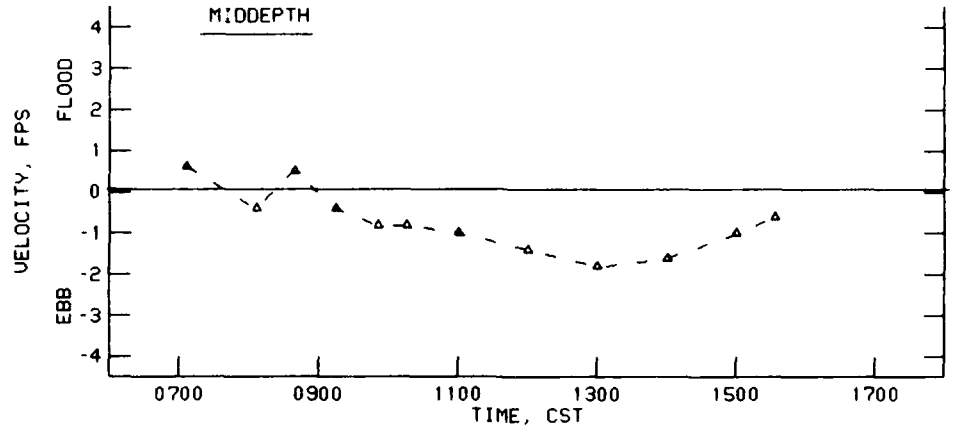


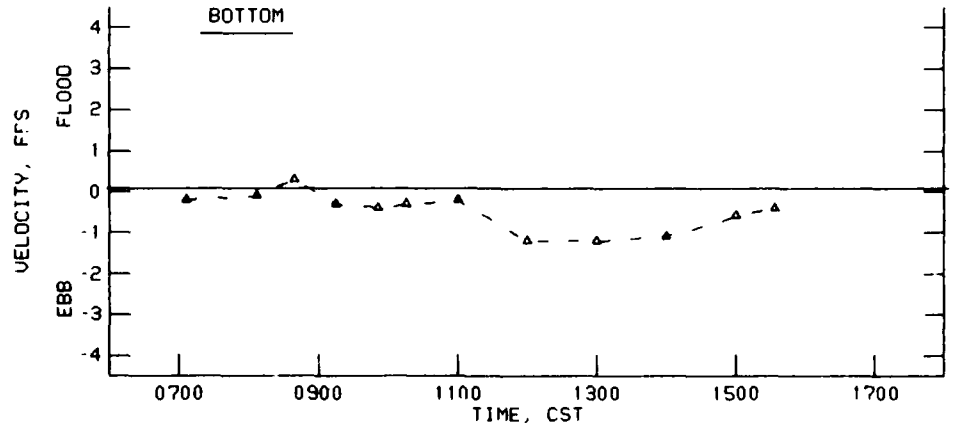

# VELOCITIES AT STATION 2-X

**26 OCTOBER 1988**

PLATE 17



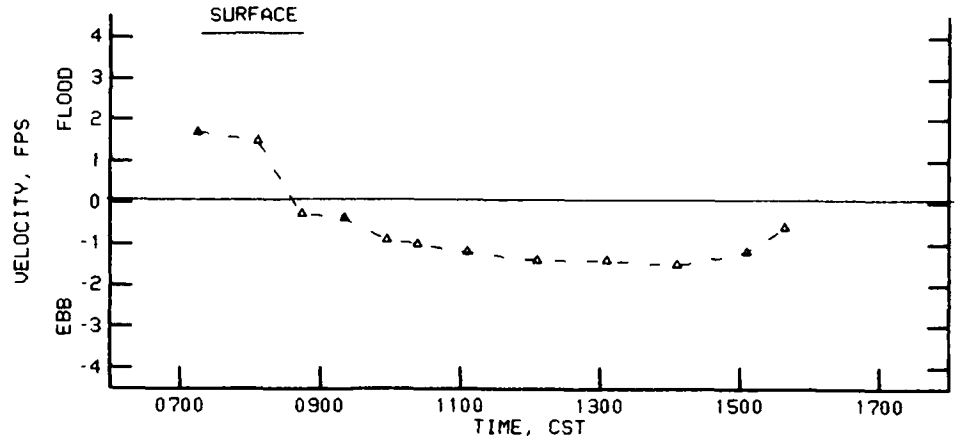



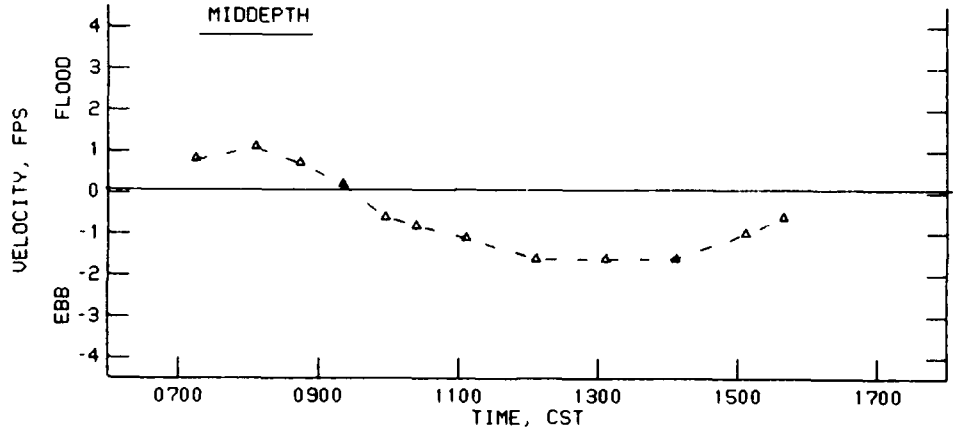



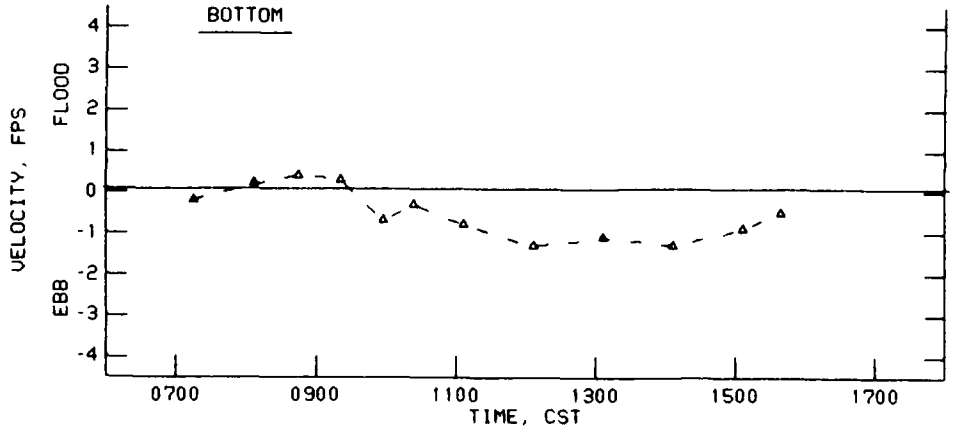

# VELOCITIES AT STATION 3-A

**26 OCTOBER 1988**

PLATE 18



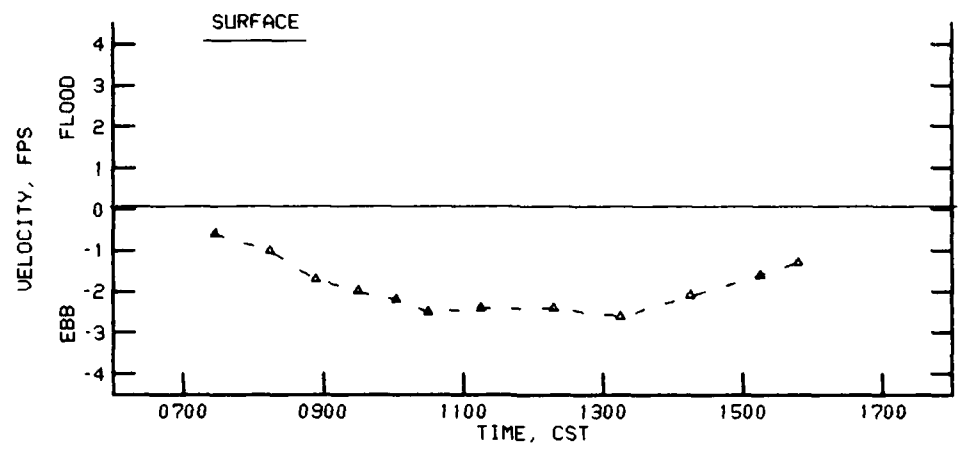



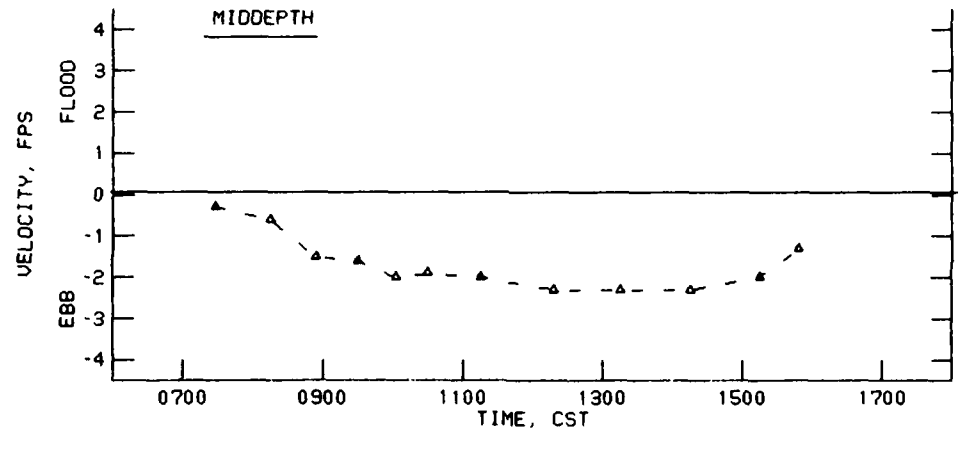



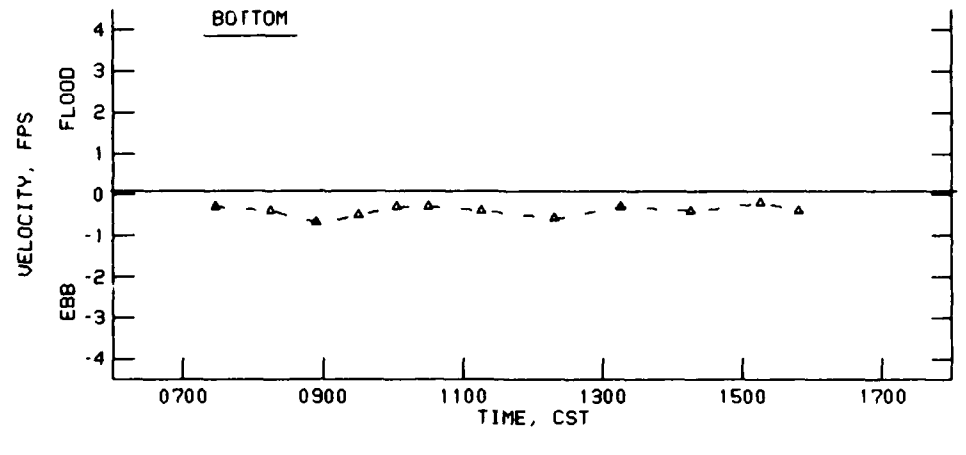

# VELOCITIES AT STATION 3-B

**26 OCTOBER 1988**

PLATE 19



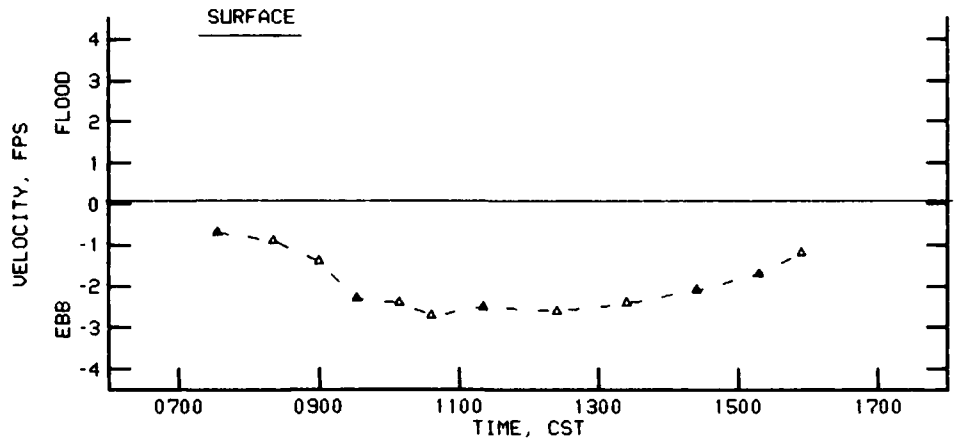



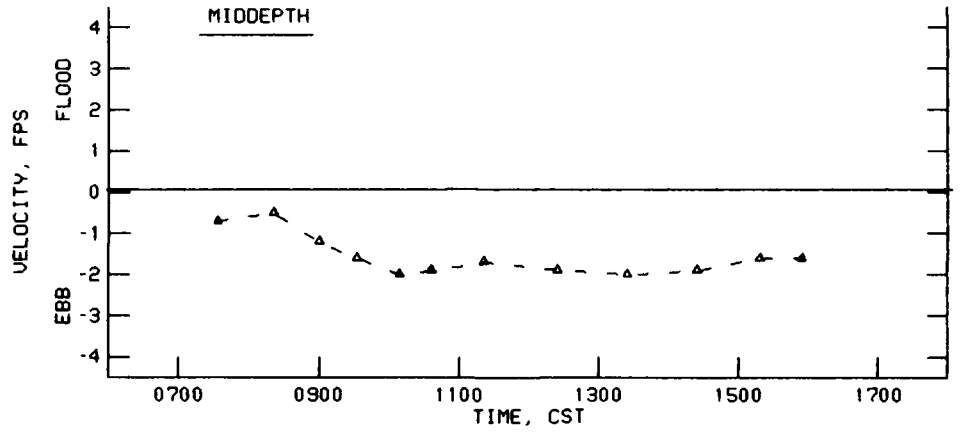



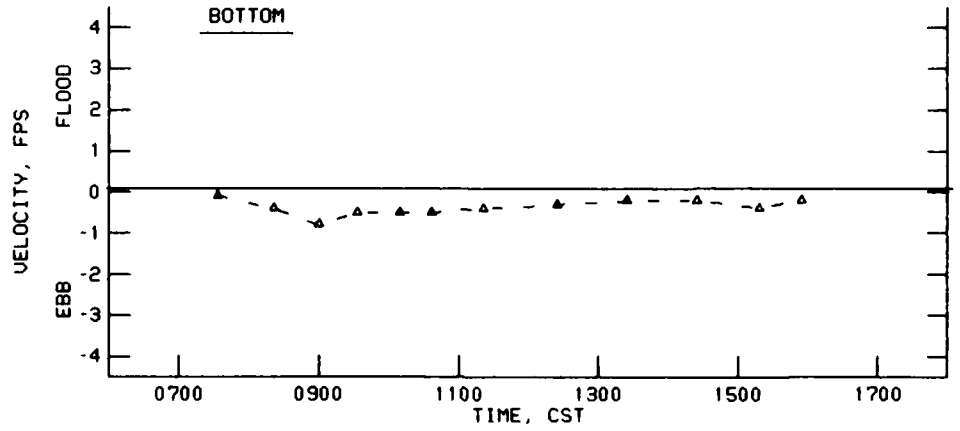

# VELOCITIES AT STATION 3-C

**26 OCTOBER 1988**

PLATE 20



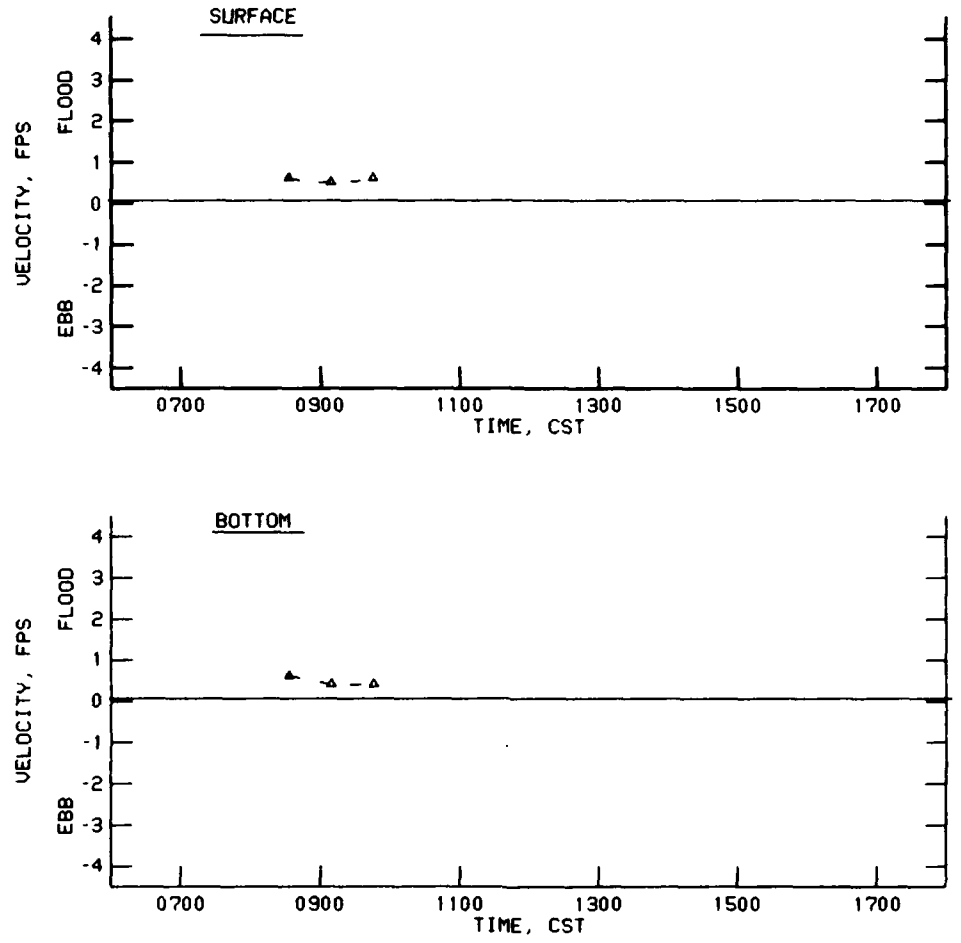




# VELOCITIES AT STATION 3-D

**26 OCTOBER 1988**

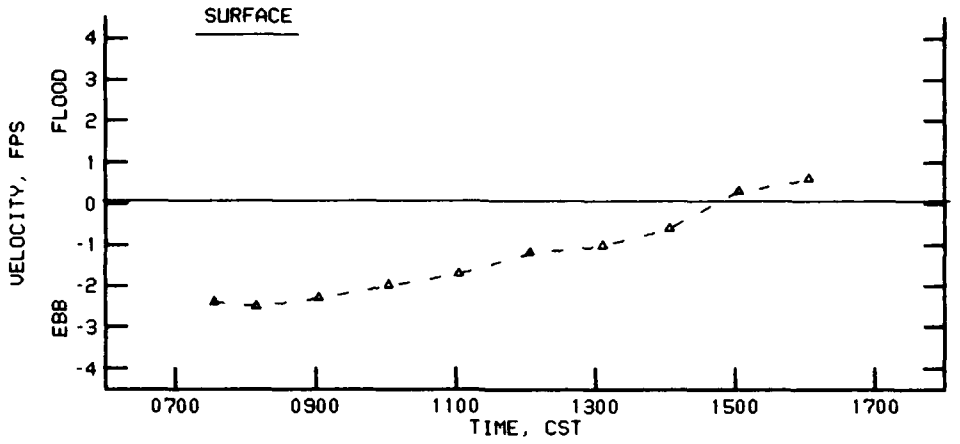
PLATE 21

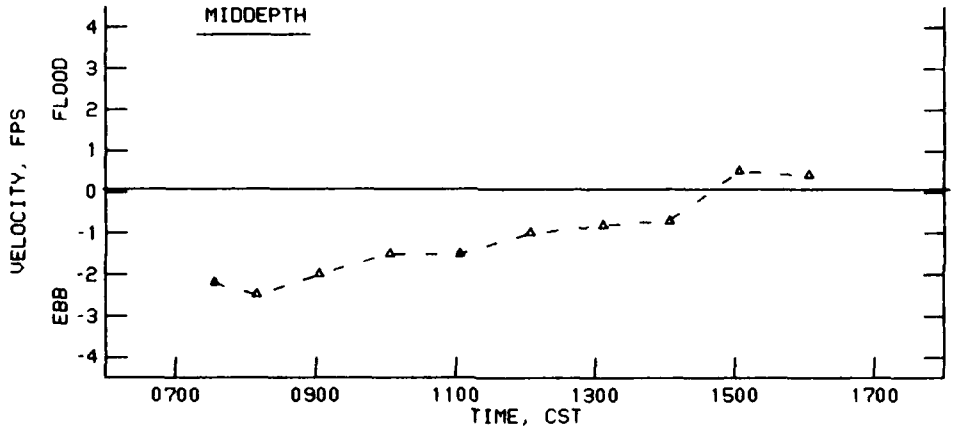


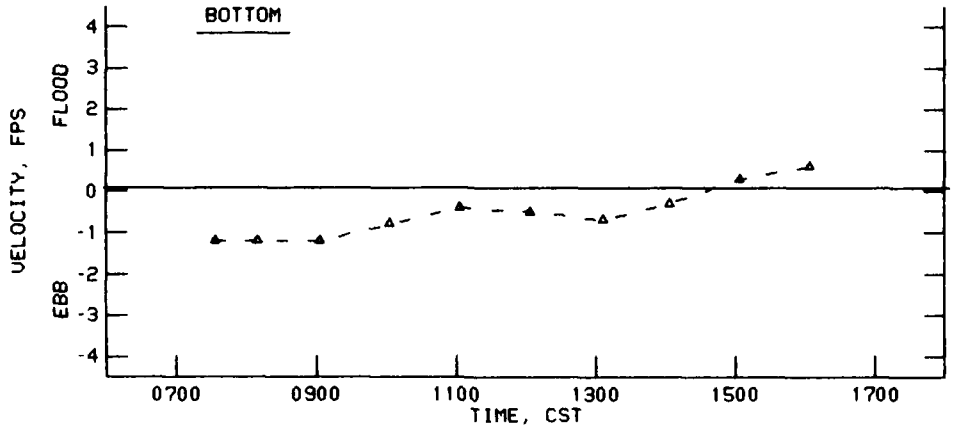

# VELOCITIES AT STATION 3-X

**26 OCTOBER 1988**

PLATE 22



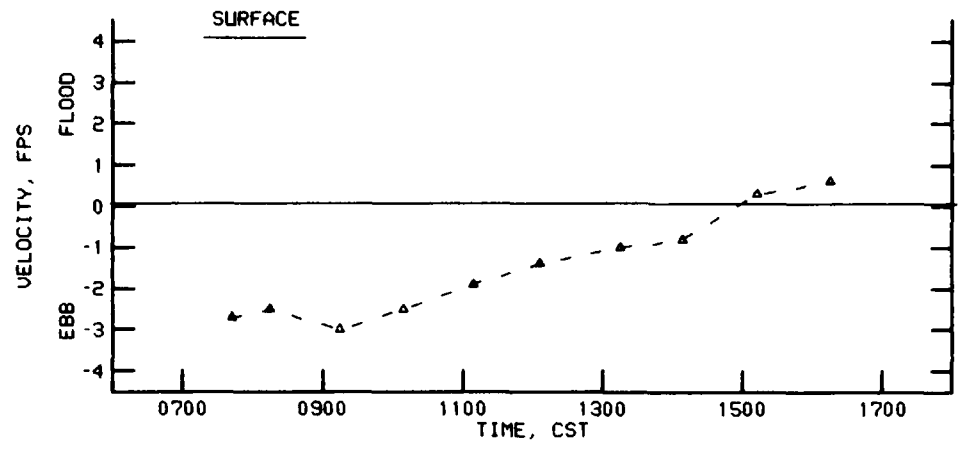



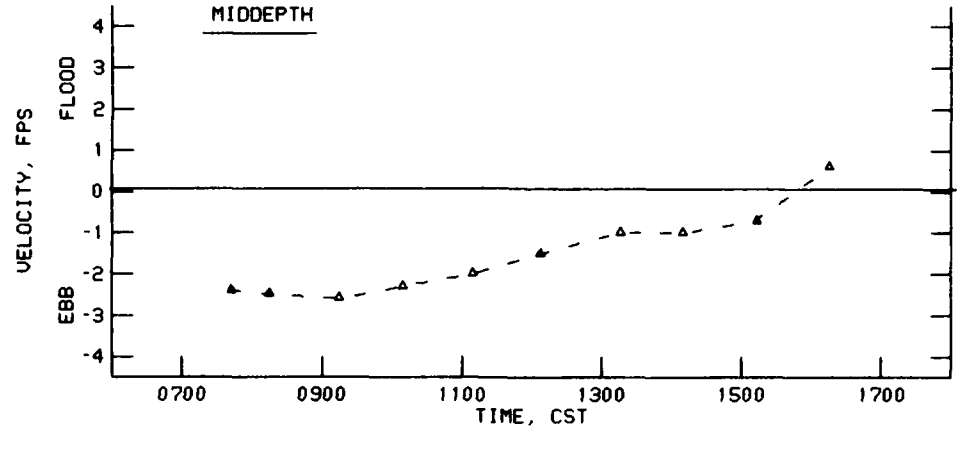



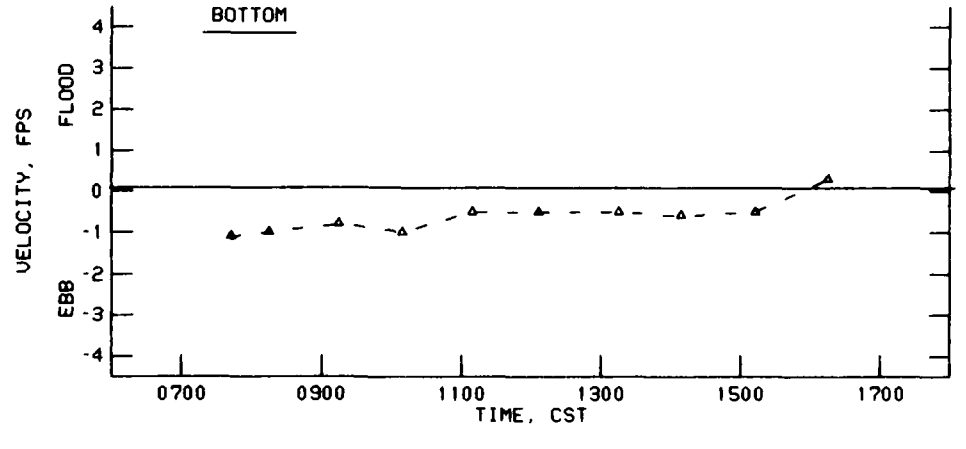

# VELOCITIES AT STATION 1-A

**11 NOVEMBER 1988**

PLATE 23



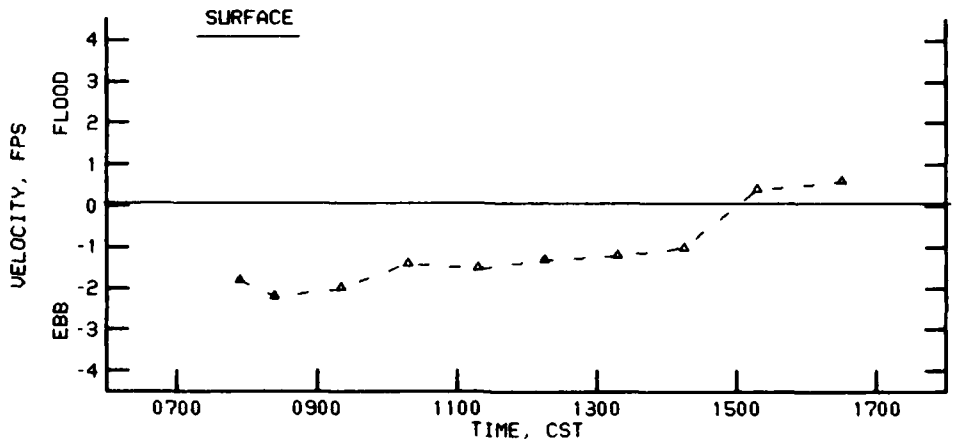



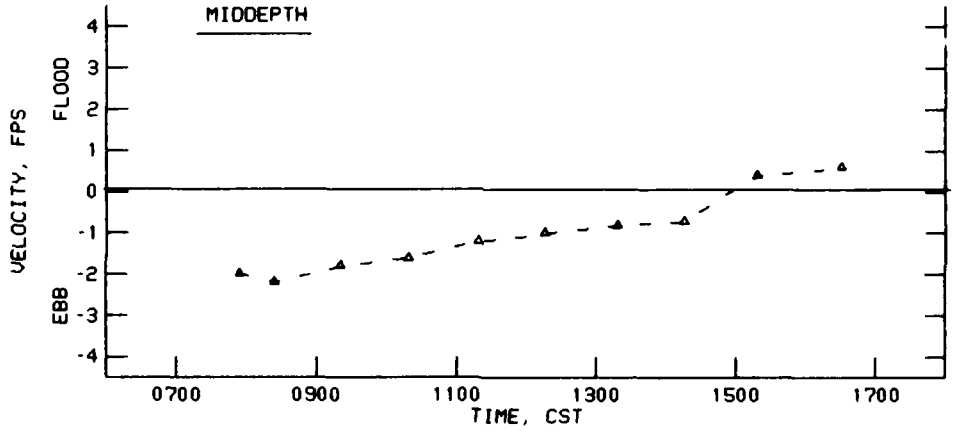



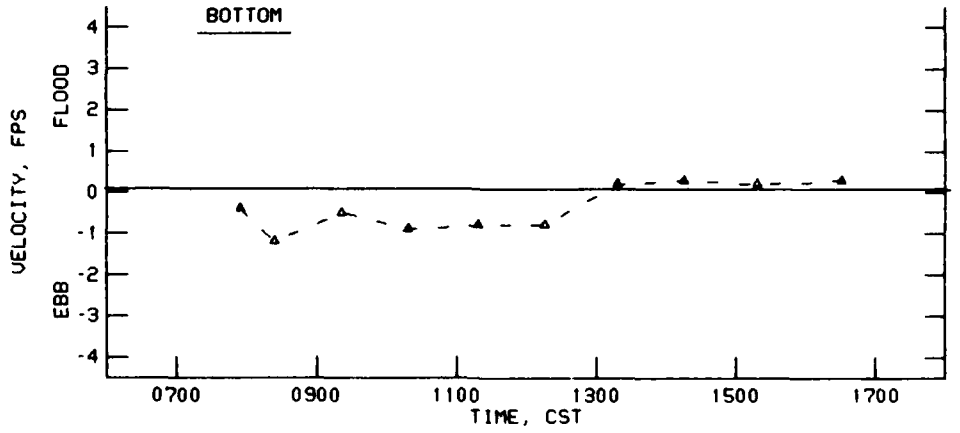

# VELOCITIES AT STATION 1-B

**11 NOVEMBER 1988**

PLATE 24



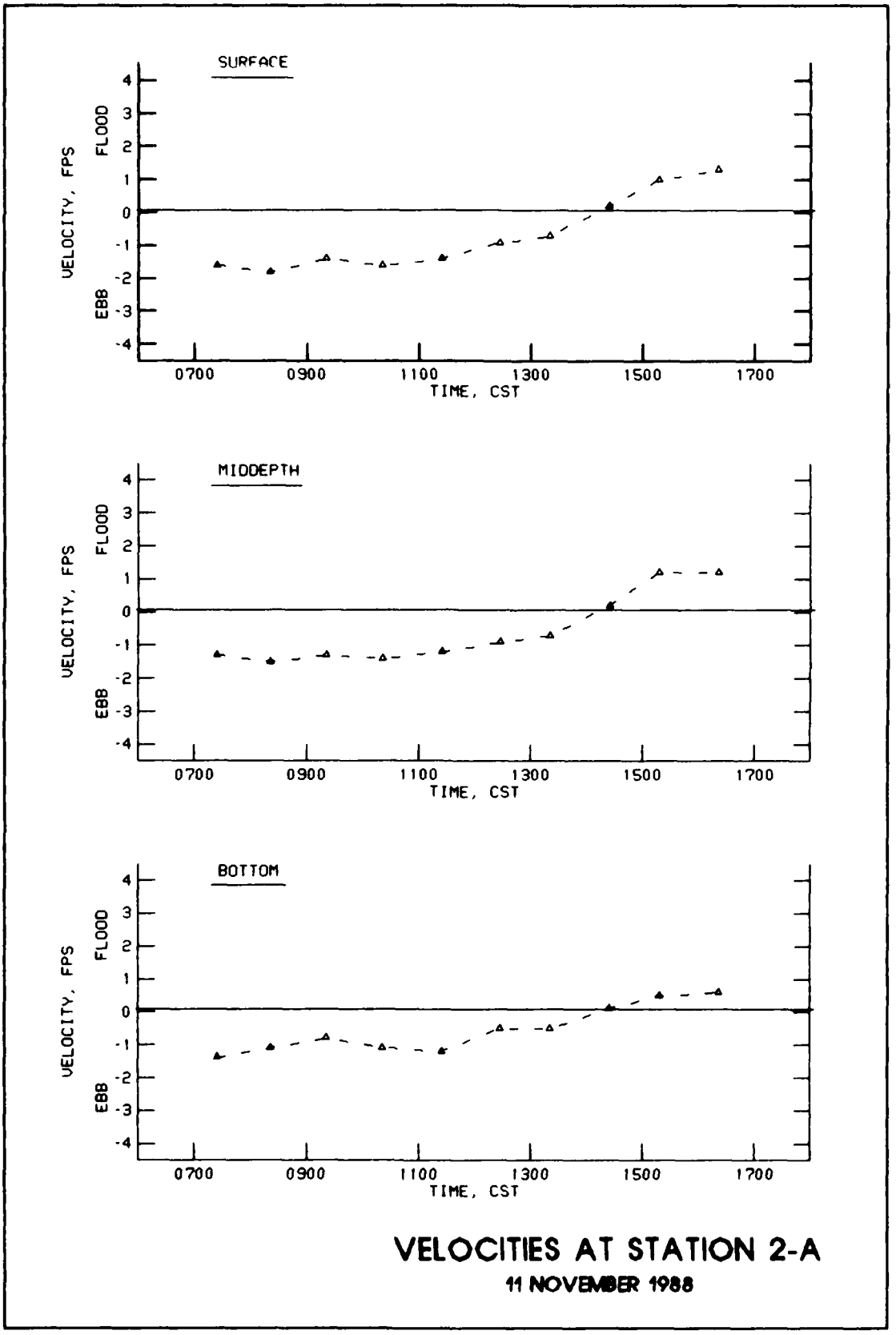




# VELOCITIES AT STATION 1-C

**11 NOVEMBER 1988**

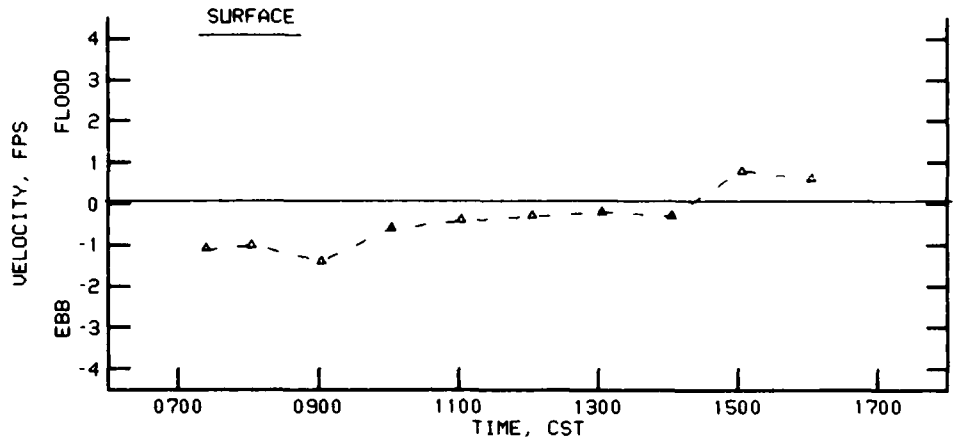
PLATE 25

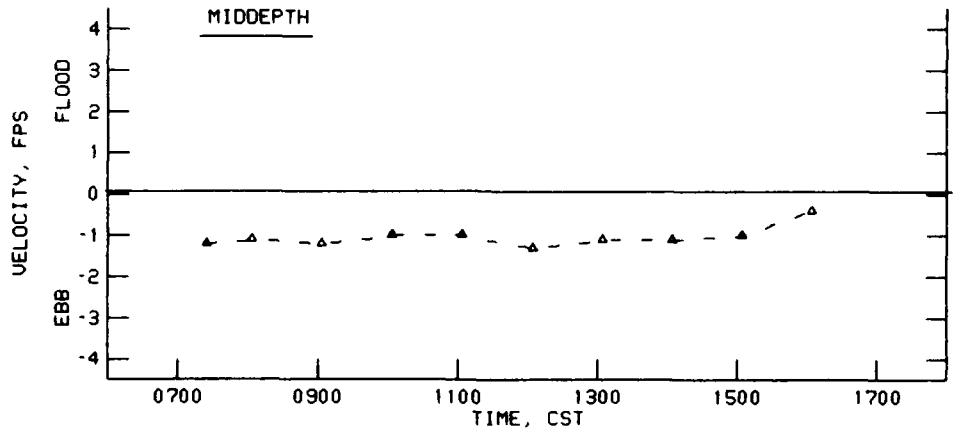


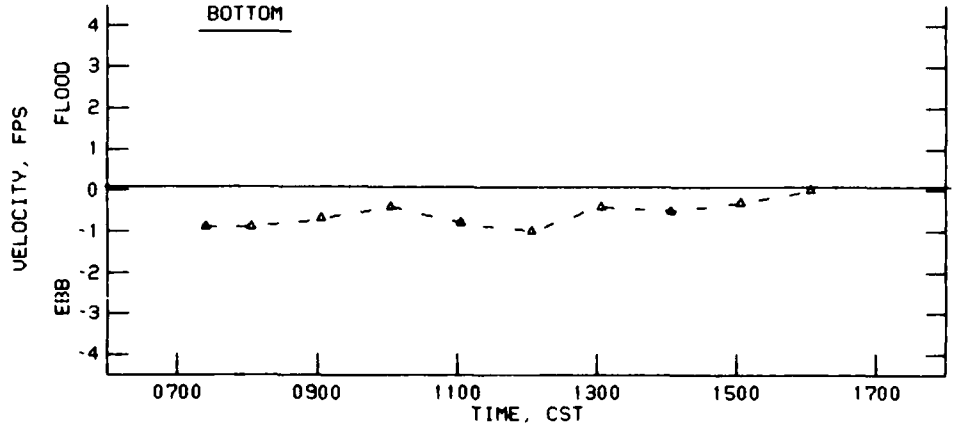

## VELOCITIES AT STATION 2-A

**11 NOVEMBER 1988**

PLATE 26



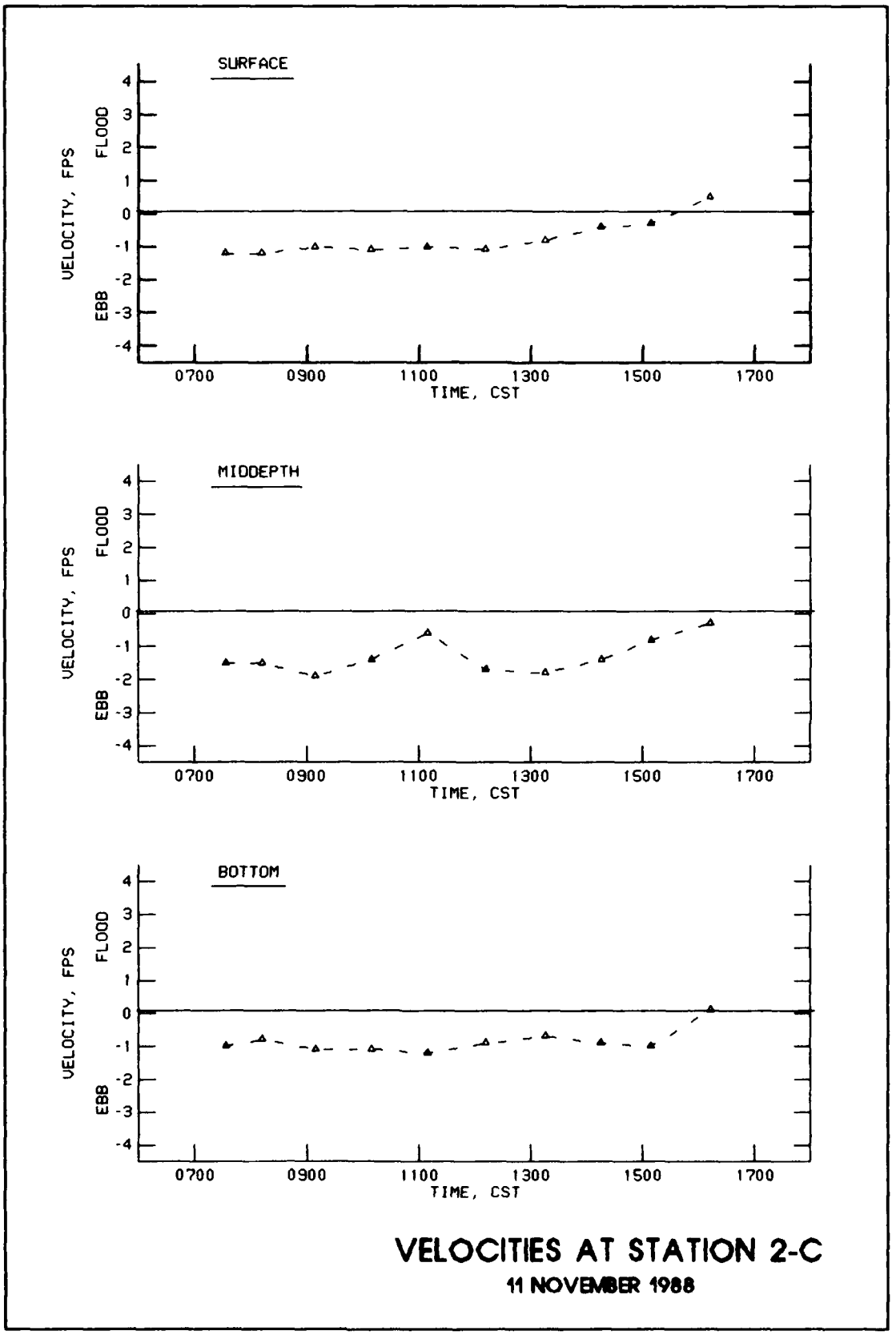




# VELOCITIES AT STATION 2-B

**11 NOVEMBER 1988**

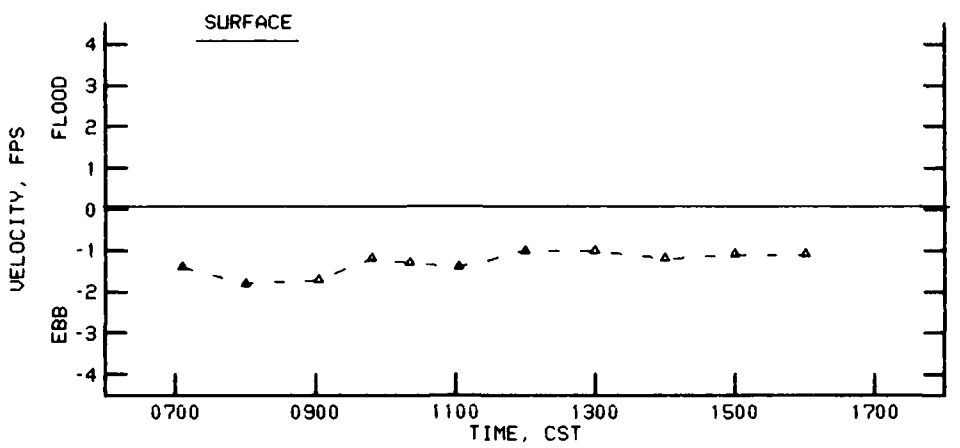
PLATE 27

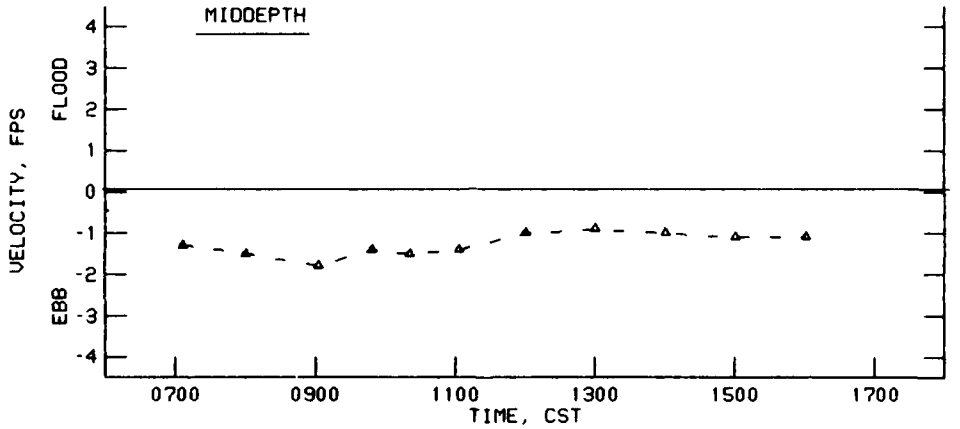


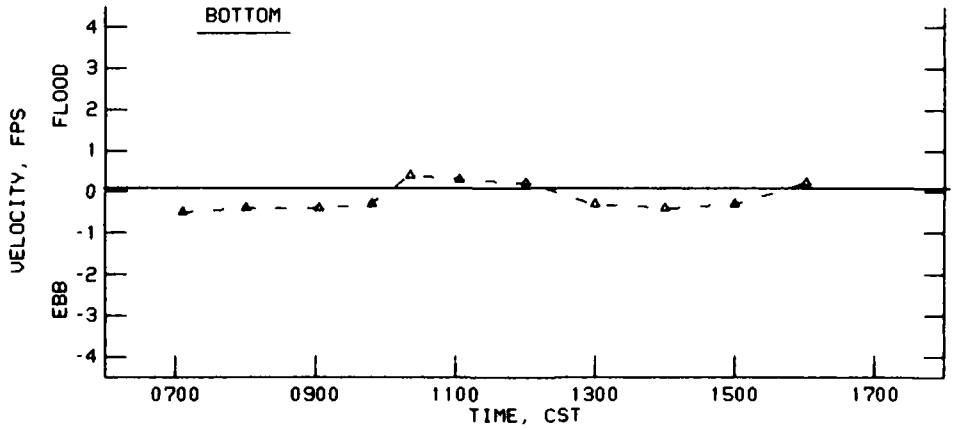

## VELOCITIES AT STATION 2-C

**11 NOVEMBER 1988**

PLATE 28



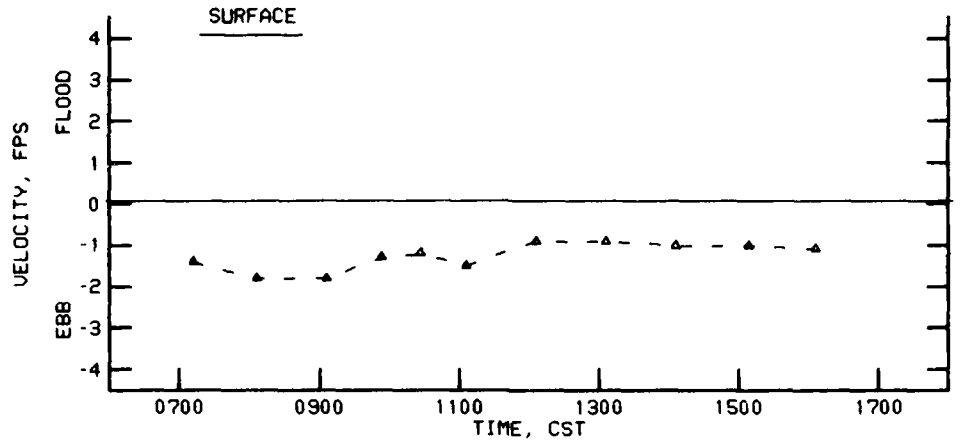



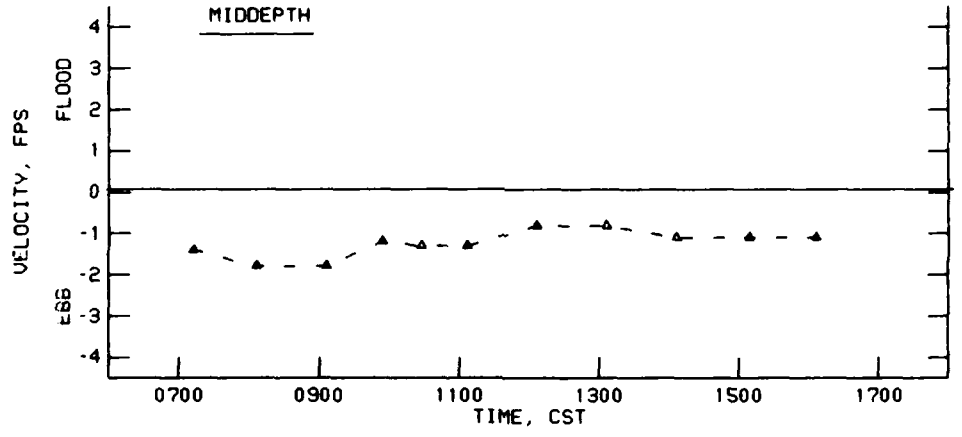



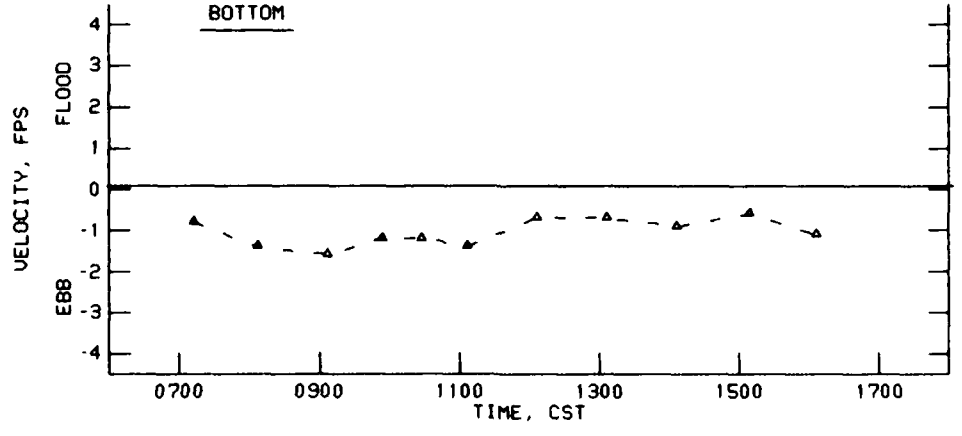

# VELOCITIES AT STATION 3-A

**11 NOVEMBER 1988**

PLATE 29



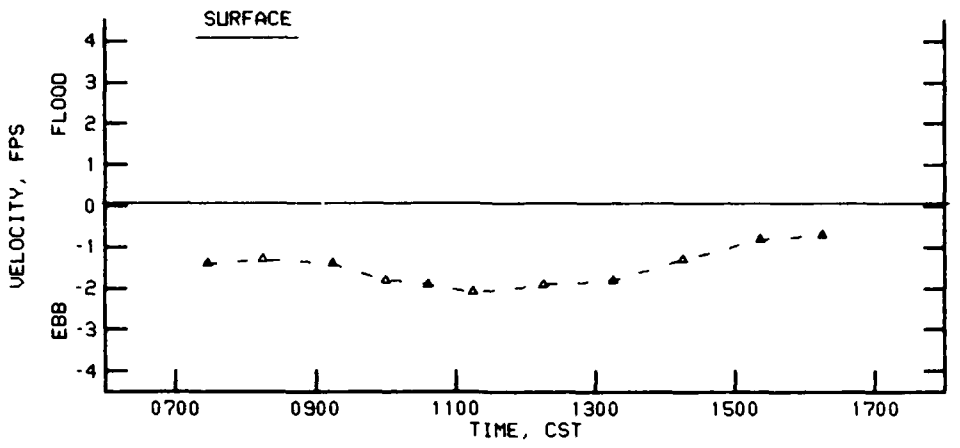



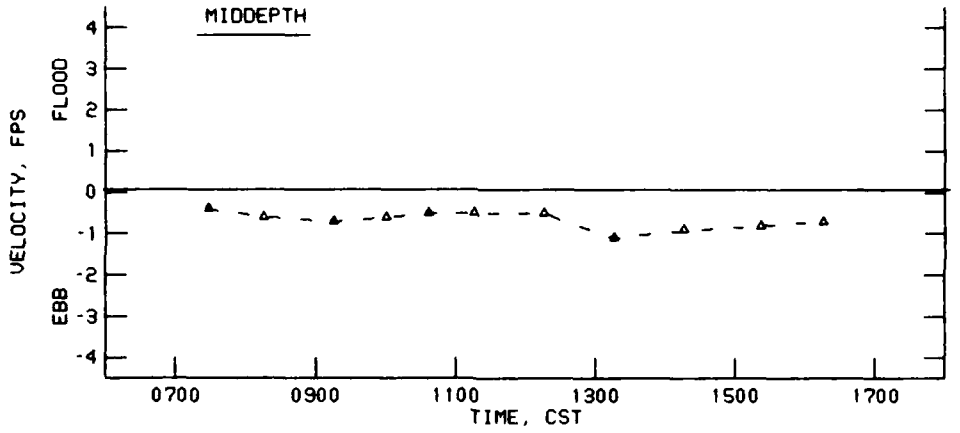



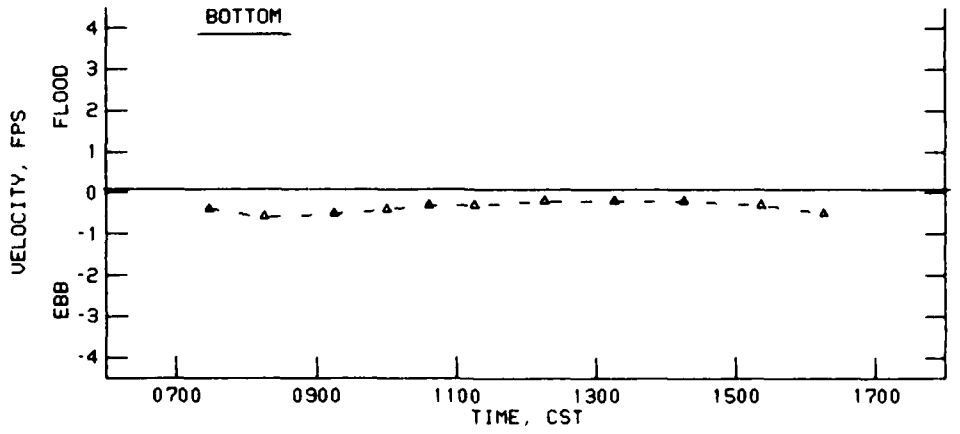

## VELOCITIES AT STATION 3-B

**11 NOVEMBER 1988**

PLATE 30



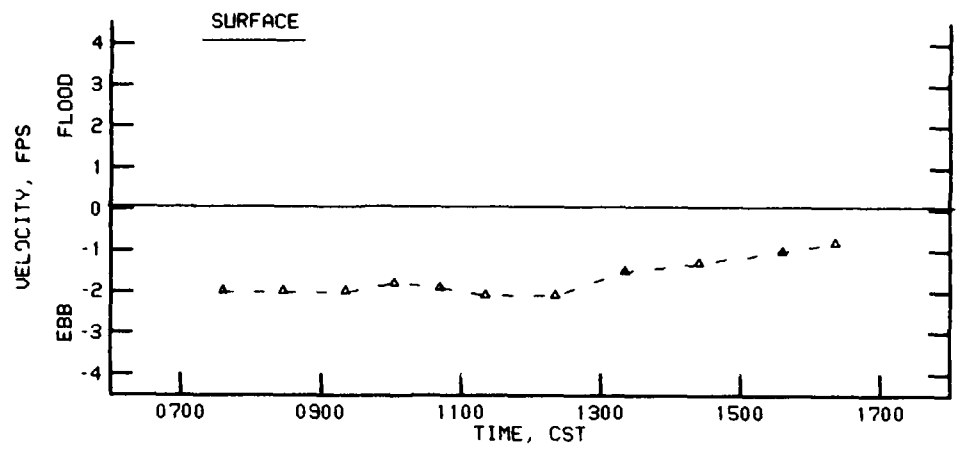



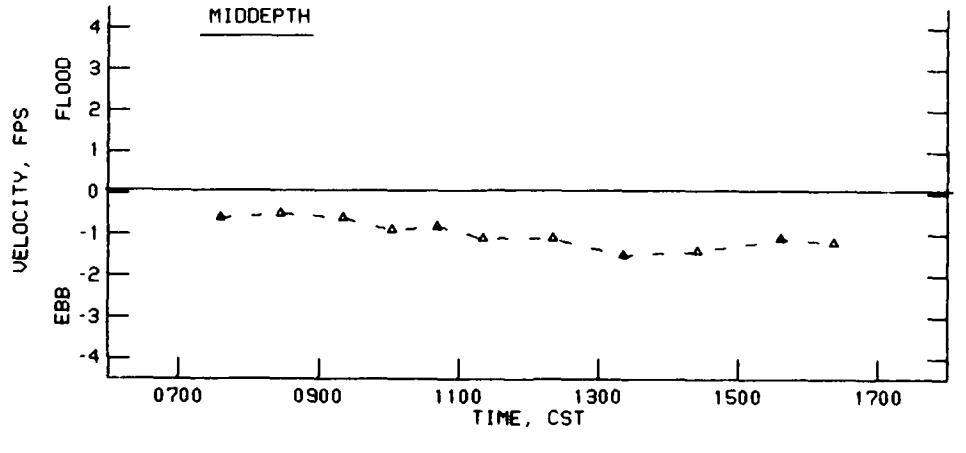



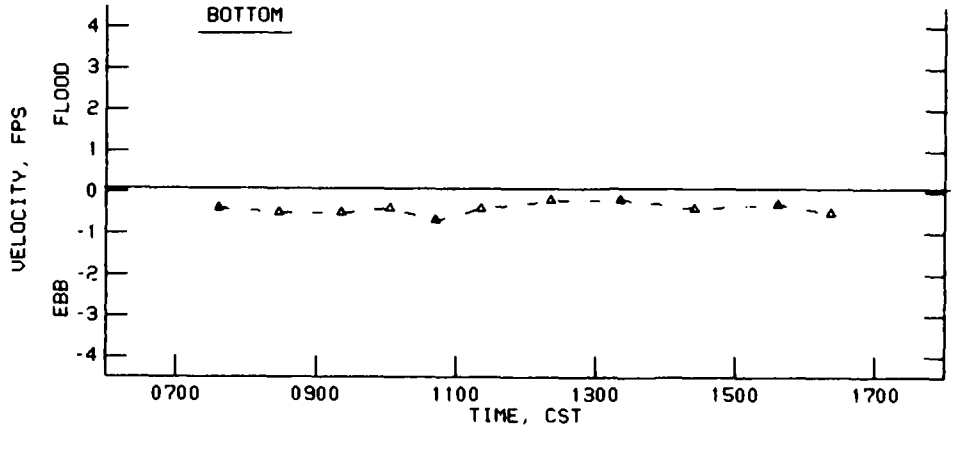

# VELOCITIES AT STATION 3-C

**11 NOVEMBER 1988**

PLATE 31



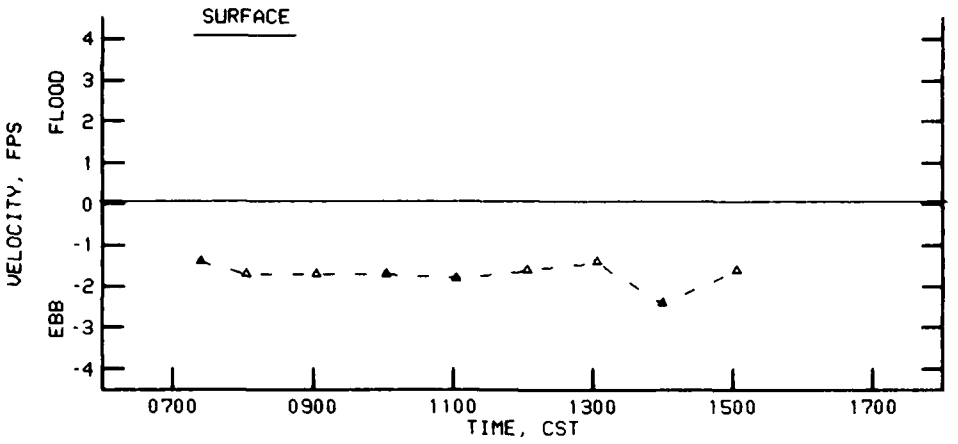



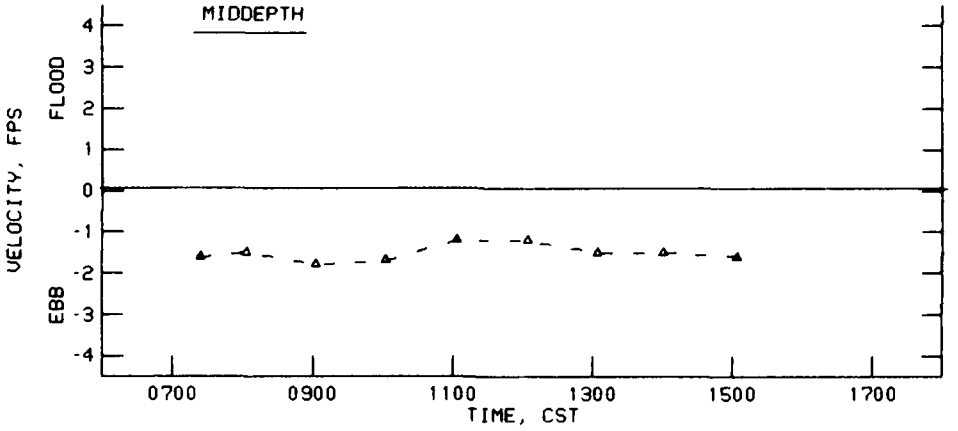



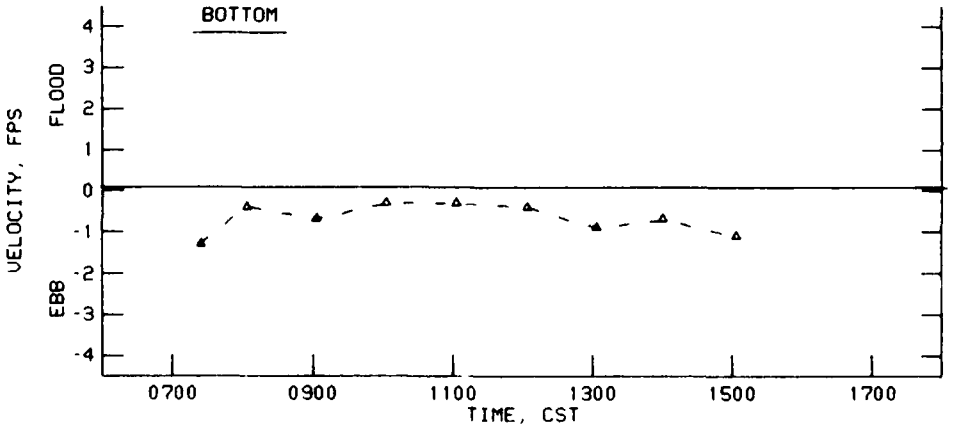

# VELOCITIES AT STATION 3-D

**11 NOVEMBER 1988**

PLATE 32



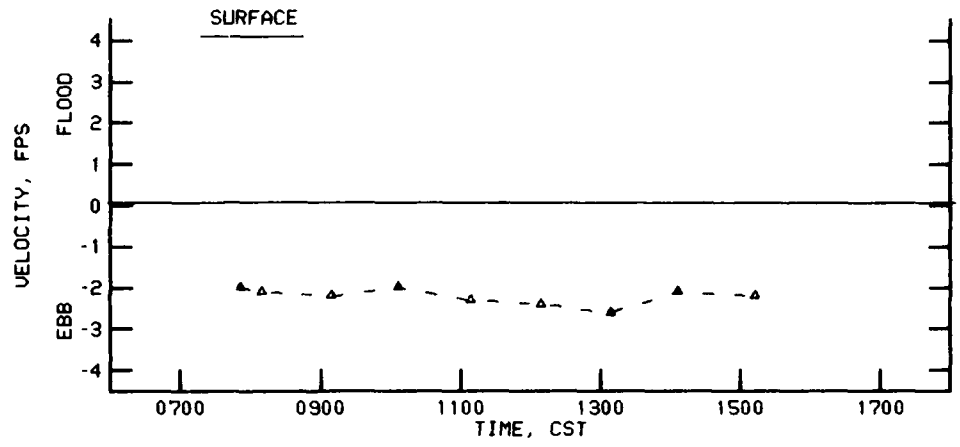



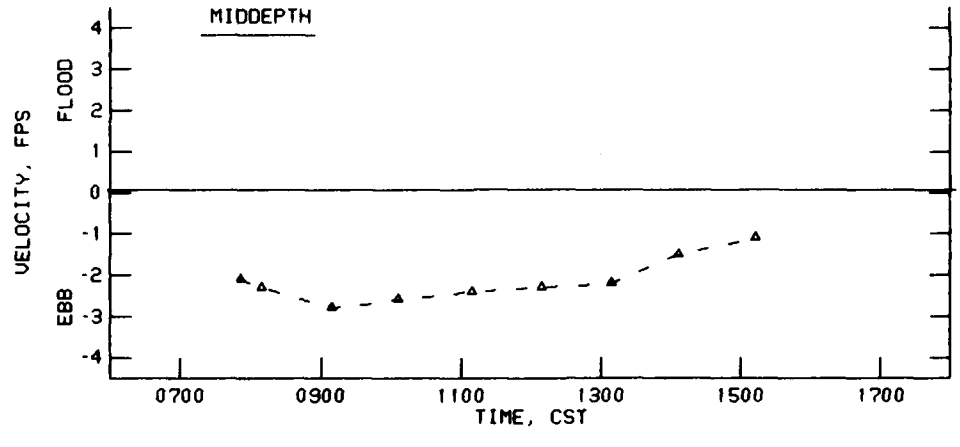



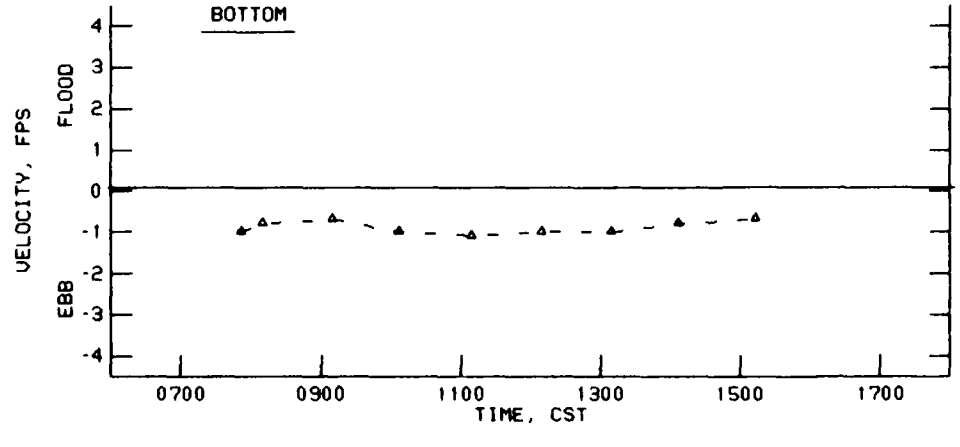

# VELOCITIES AT STATION 1-A

**27 NOVEMBER 1988**

PLATE 33



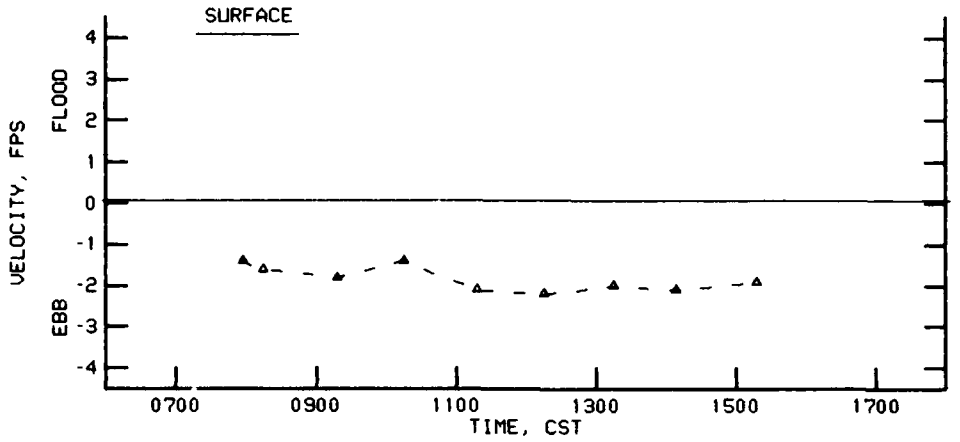



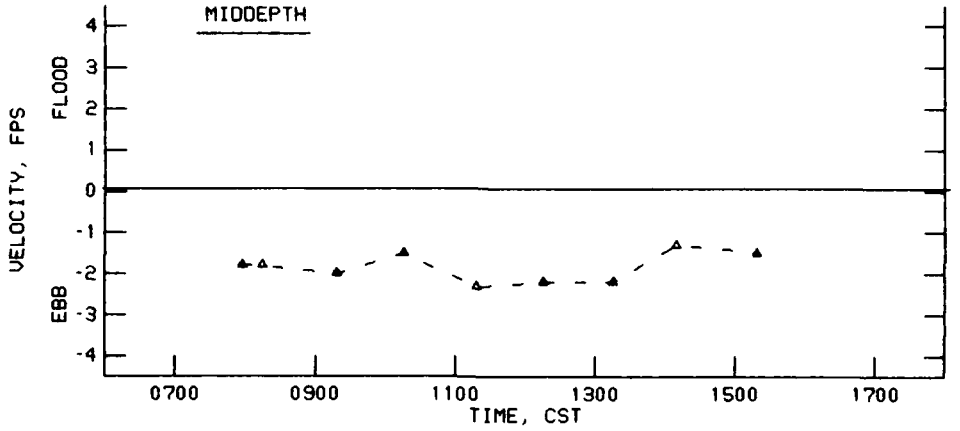



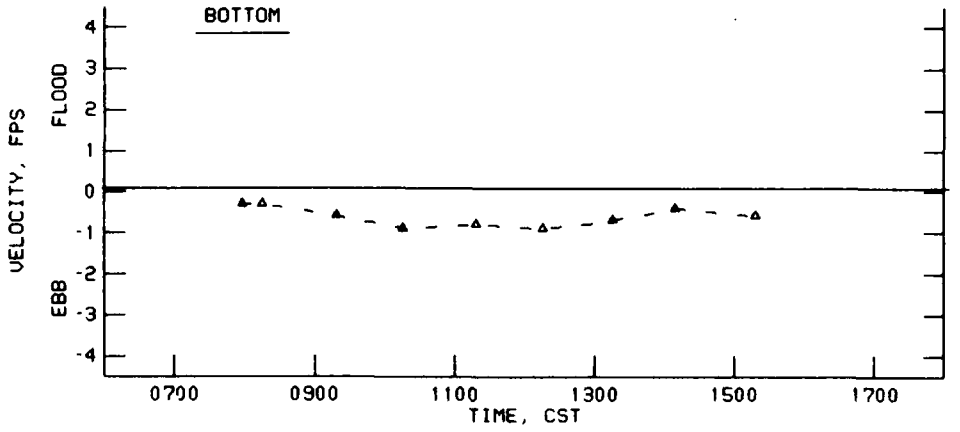

# VELOCITIES AT STATION 1-B

**27 NOVEMBER 1988**

PLATE 34



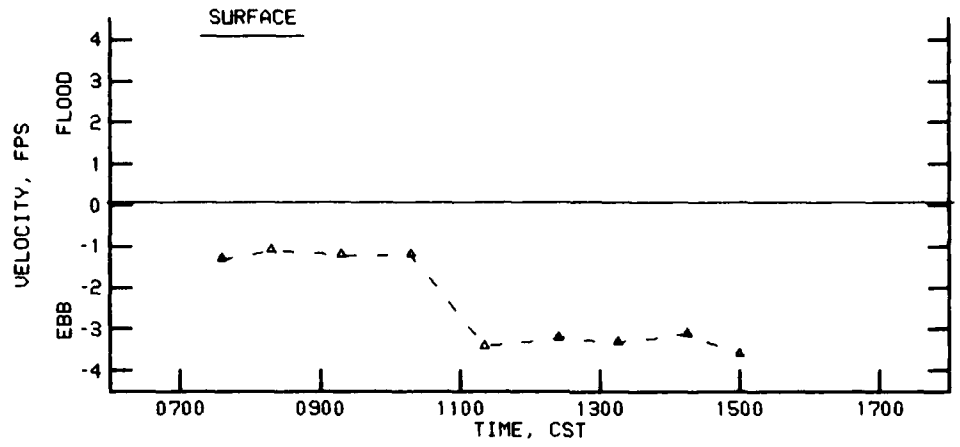



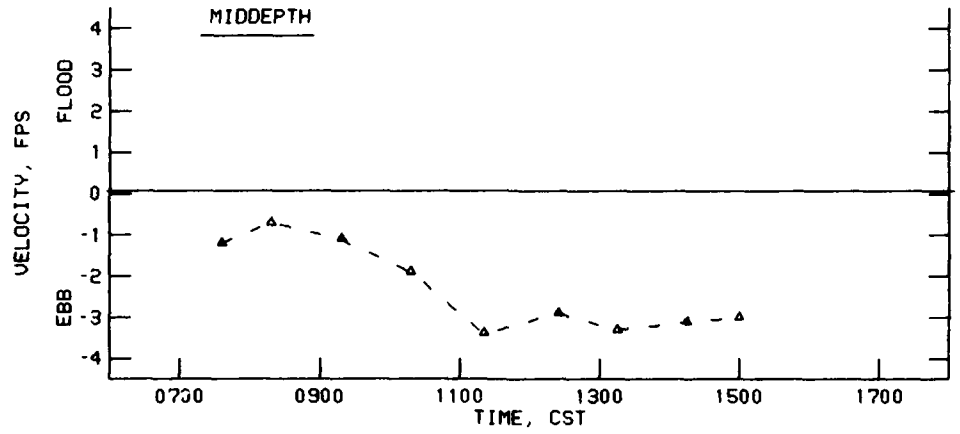



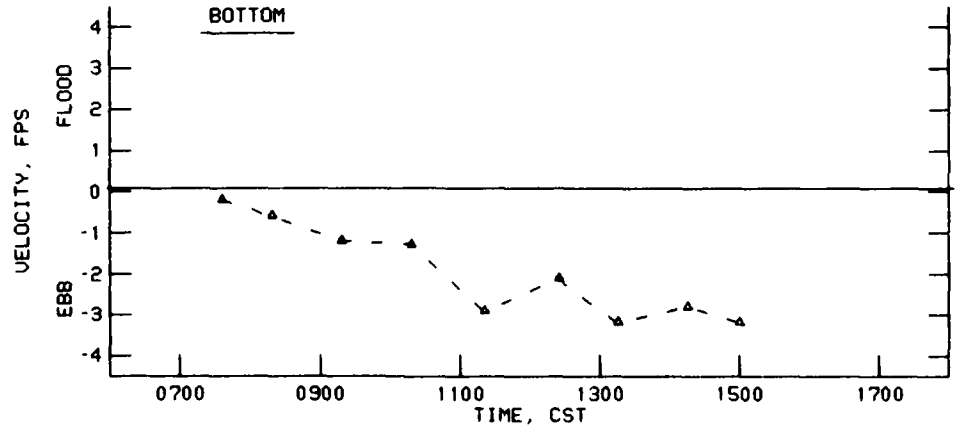

# VELOCITIES AT STATION 1-C

**27 NOVEMBER 1988**

PLATE 35



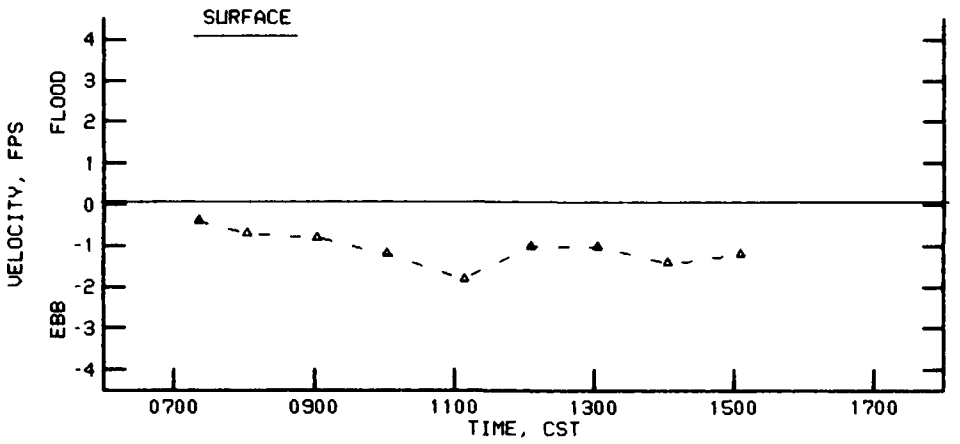



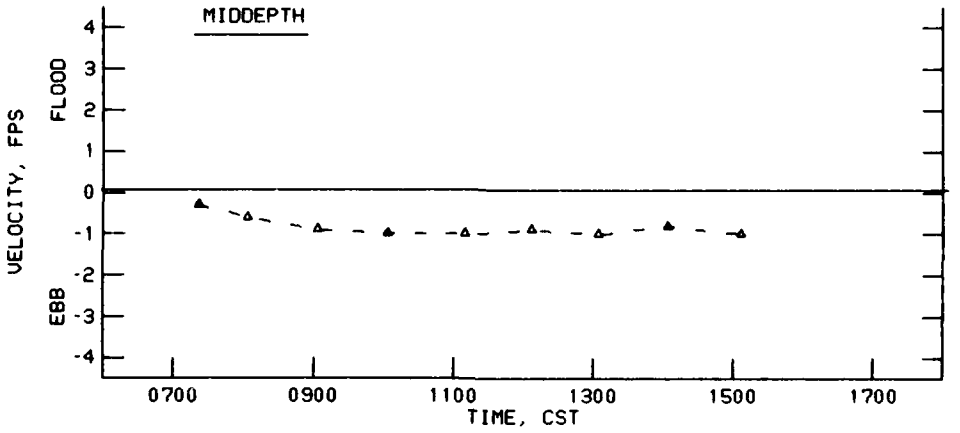



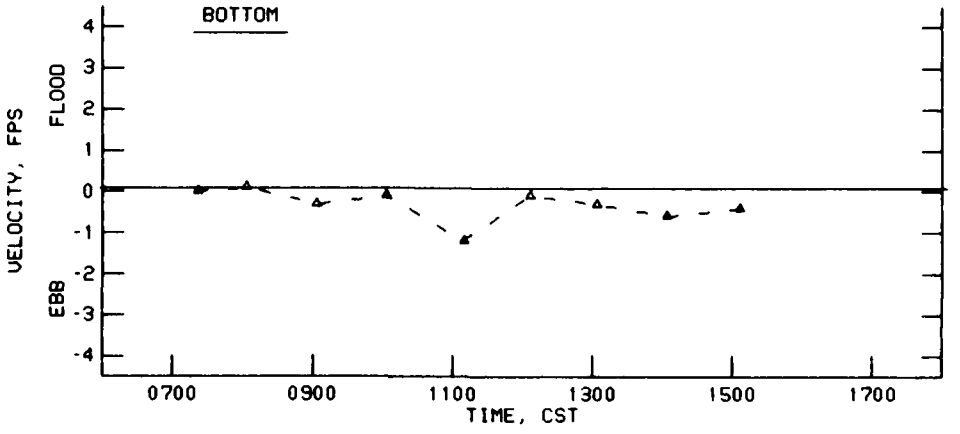

# VELOCITIES AT STATION 2-A

**27 NOVEMBER 1988**

PLATE 36



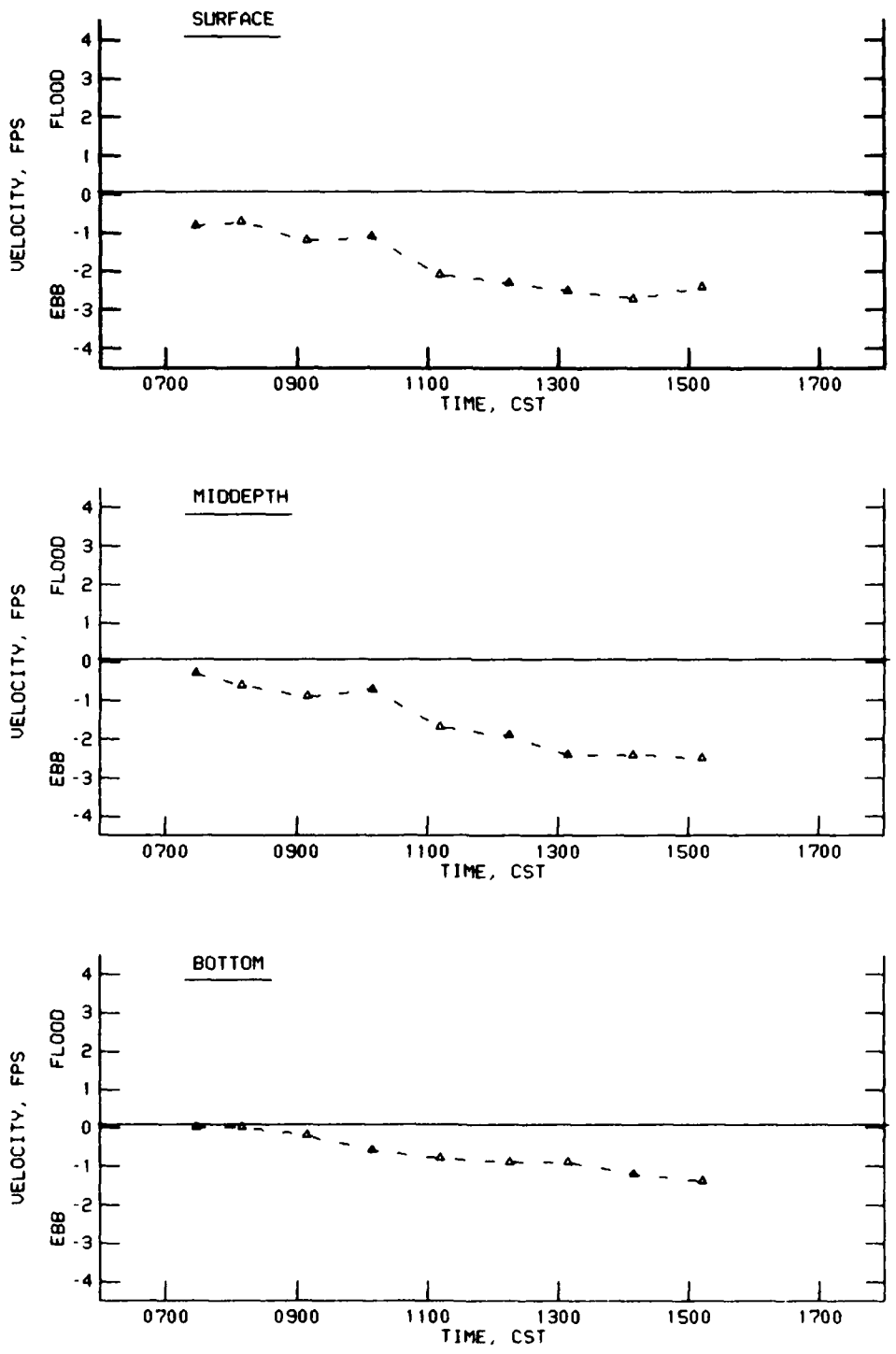




# VELOCITIES AT STATION 2-B

**27 NOVEMBER 1988**

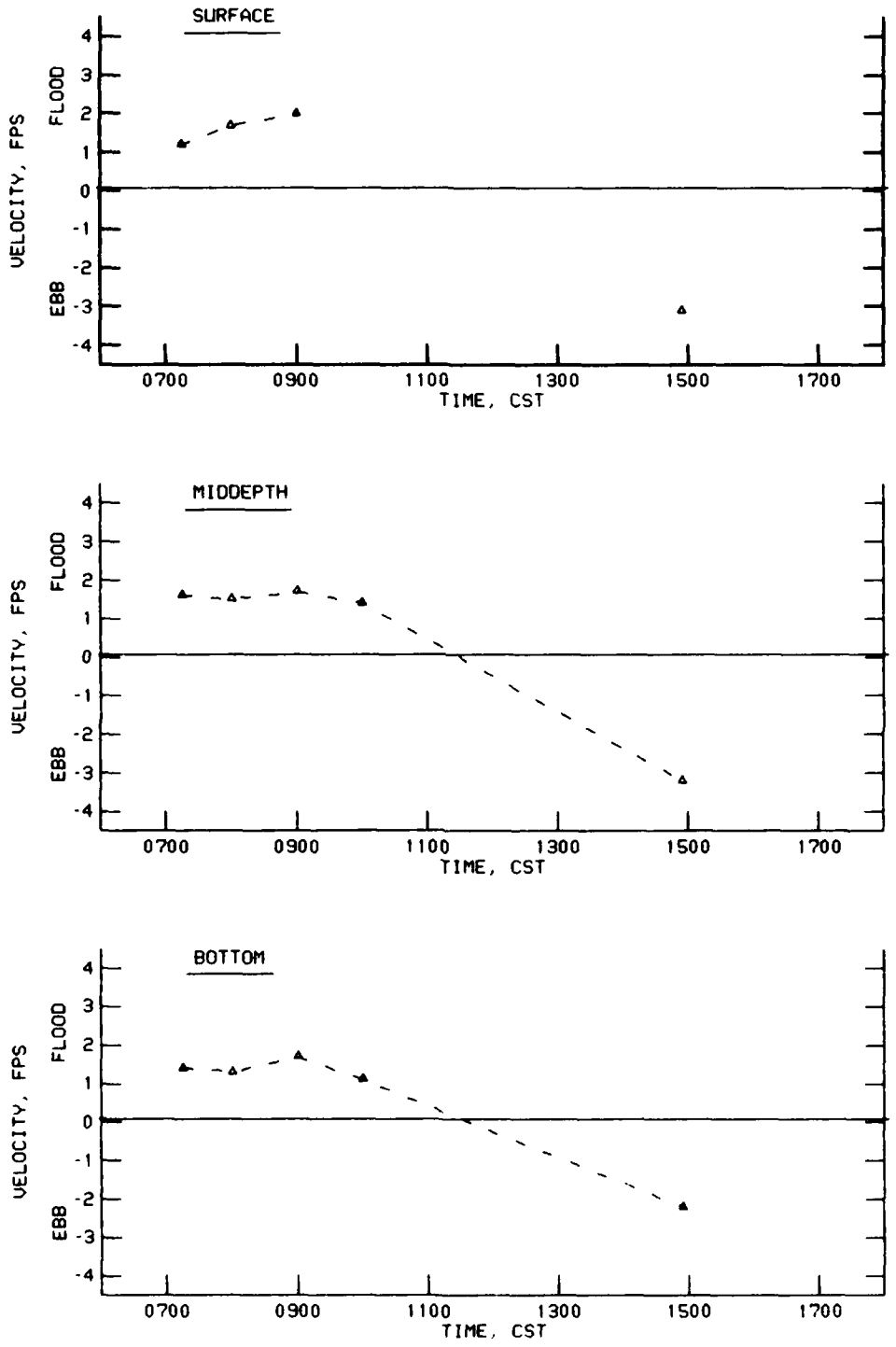
PLATE 37




# VELOCITIES AT STATION 2-C

**27 NOVEMBER 1988**

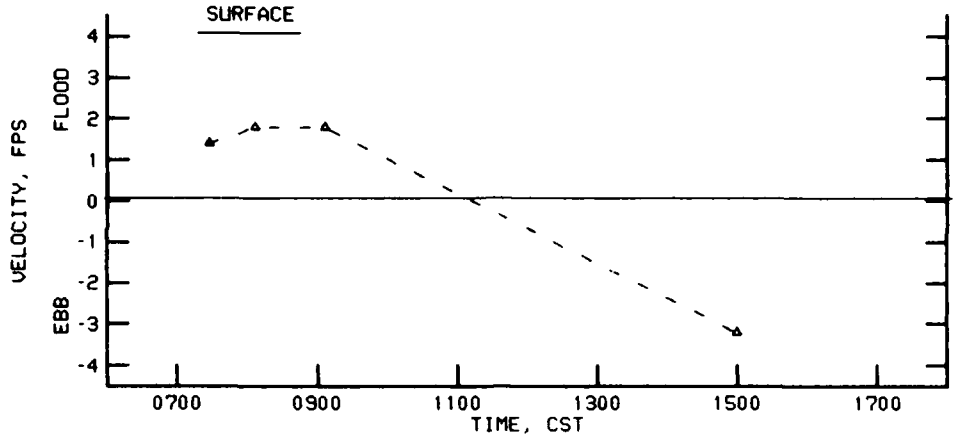
PLATE 38

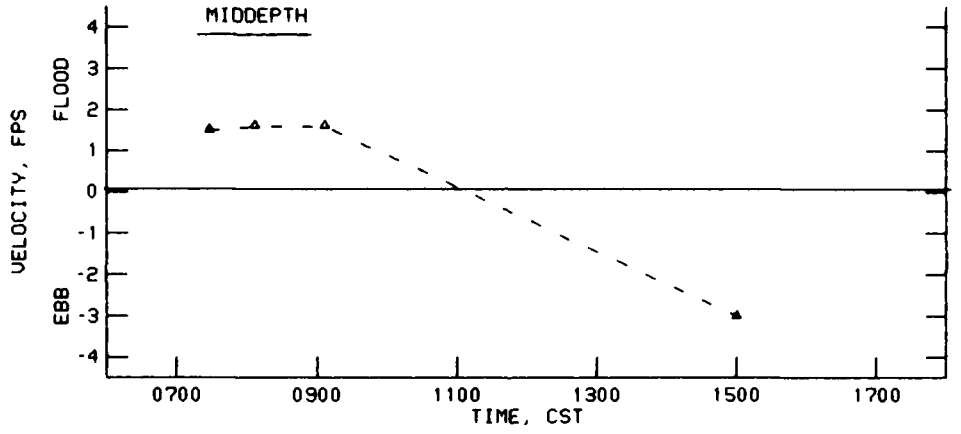


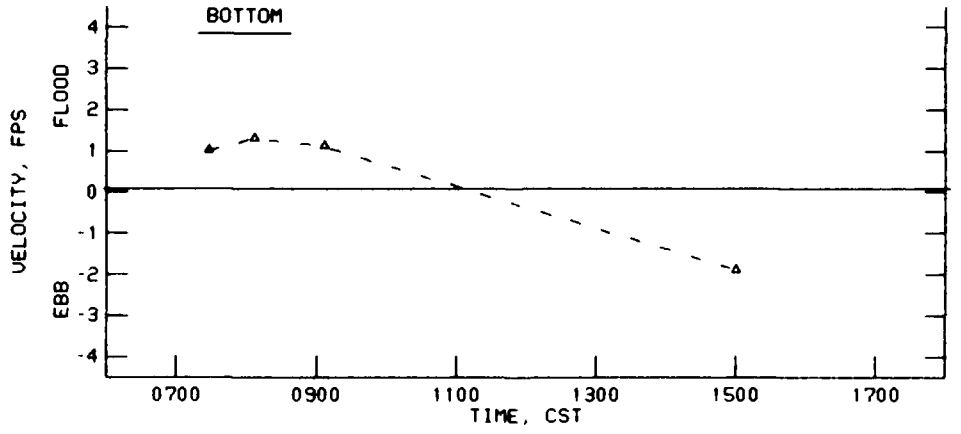

# VELOCITIES AT STATION 3-A

**27 NOVEMBER 1988**

PLATE 39



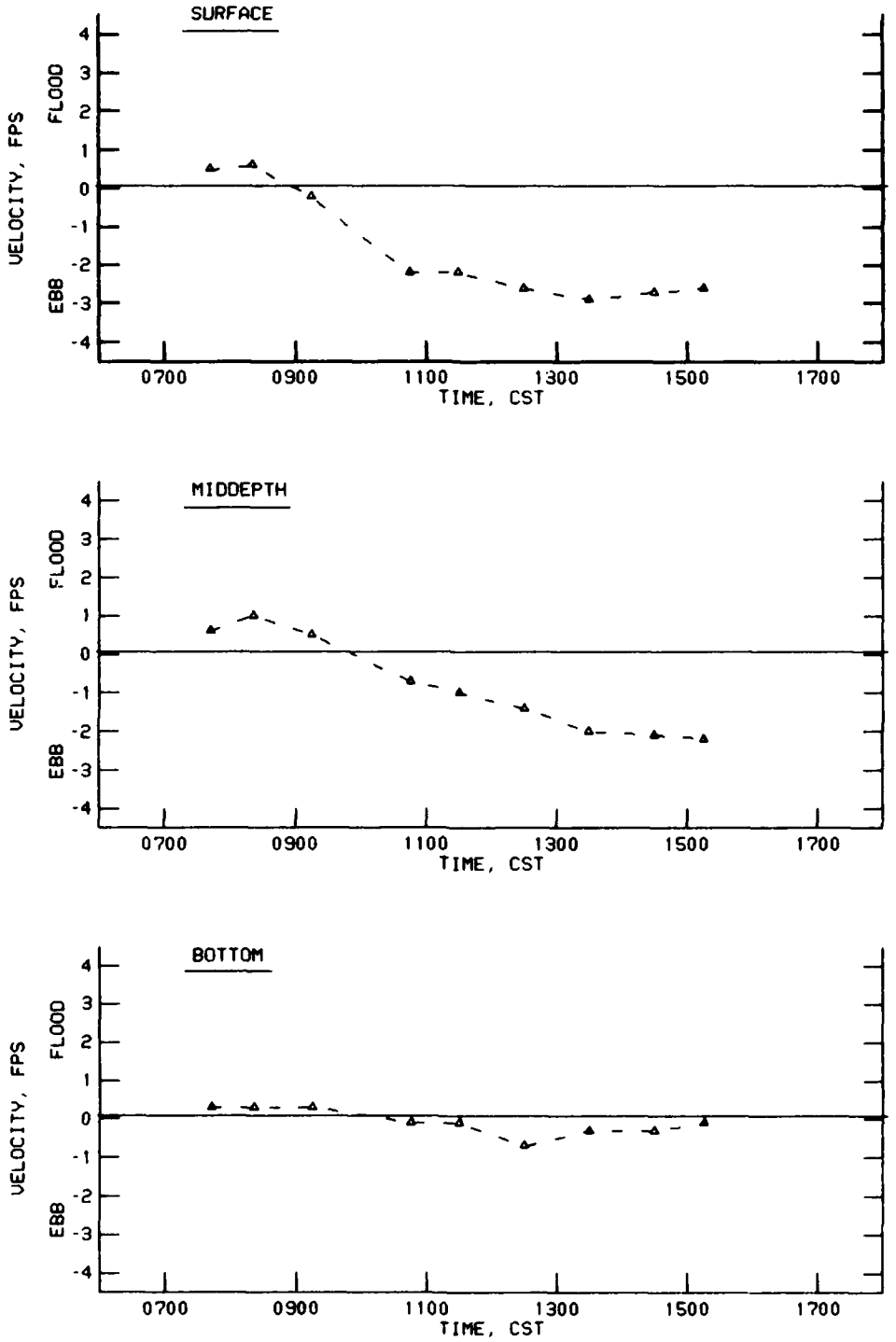




**VELOCITIES AT STATION 3-B**

**27 NOVEMBER 1988**

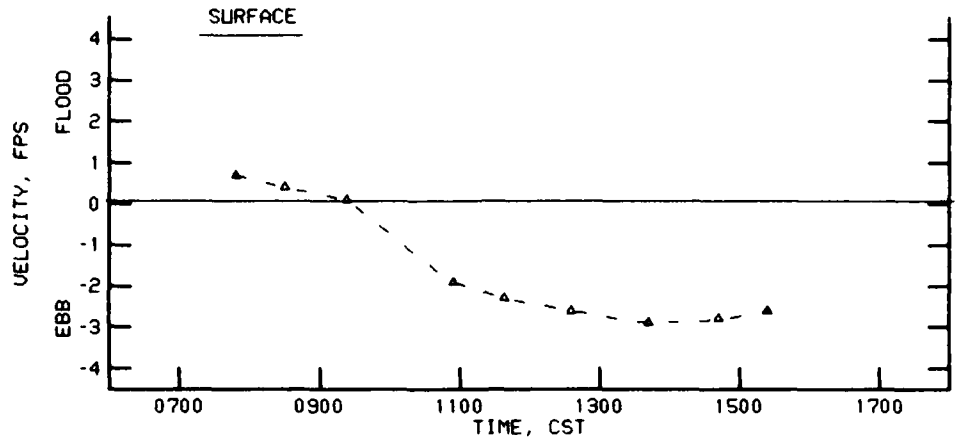
PLATE 40

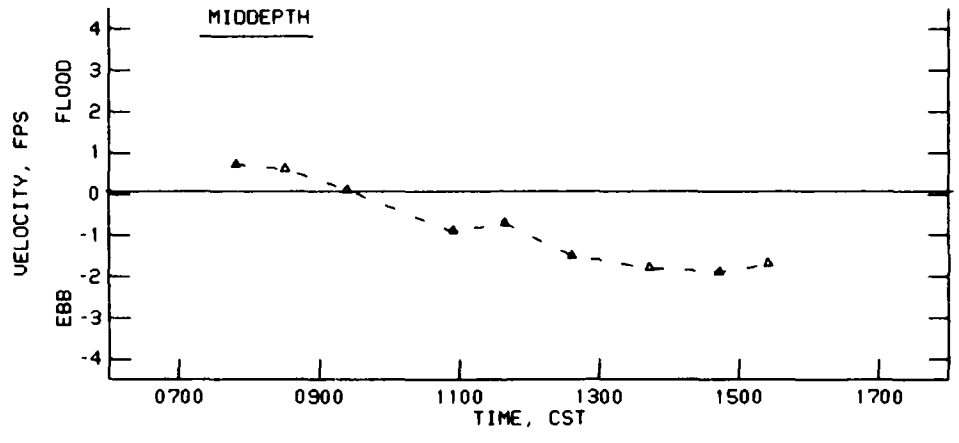


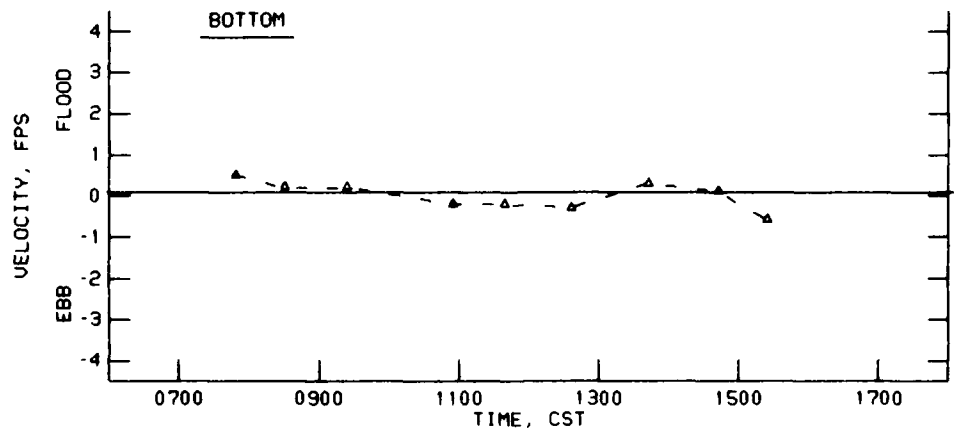

# VELOCITIES AT STATION 3-C

**27 NOVEMBER 1988**

PLATE 41



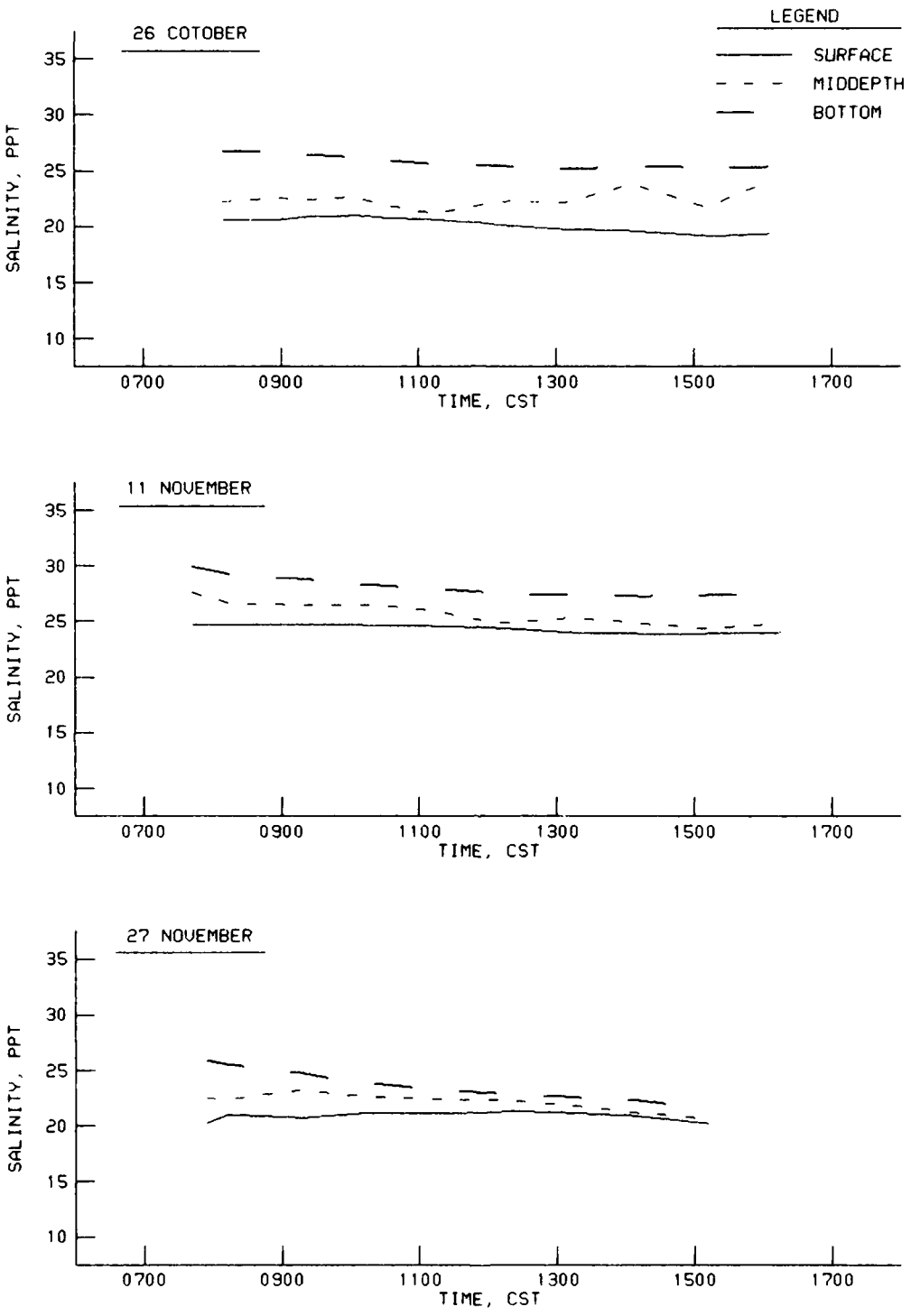




## VELOCITIES AT STATION 3-D

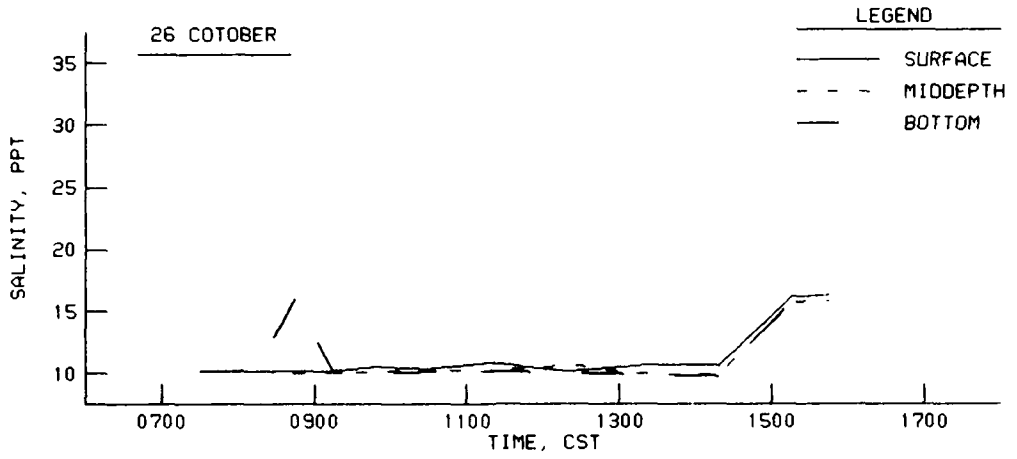
**27 NOVEMBER 1988**

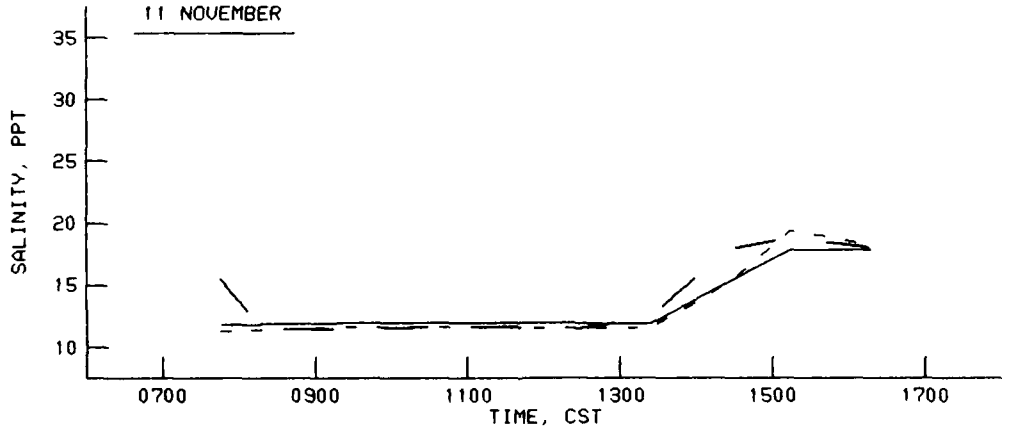
PLATE 42

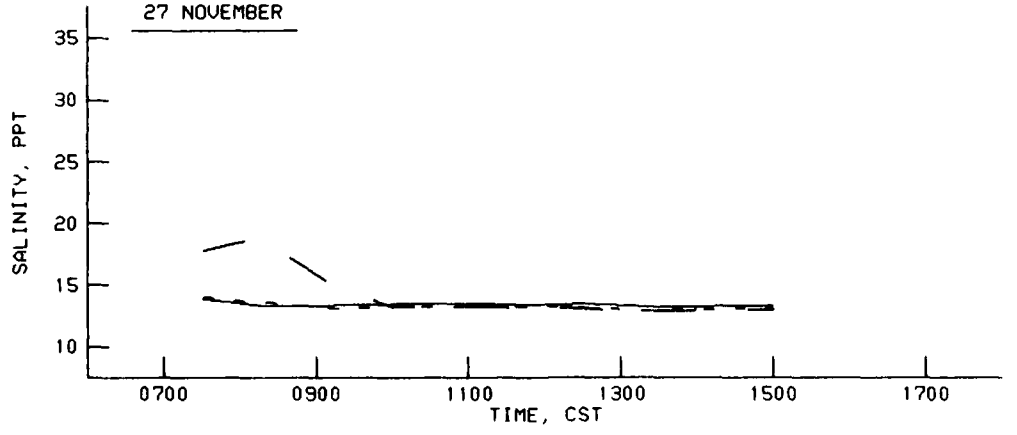



# SALINITY CONCENTRATIONS
## STATION 1-B
### OCTOBER - NOVEMBER 1988

PLATE 43

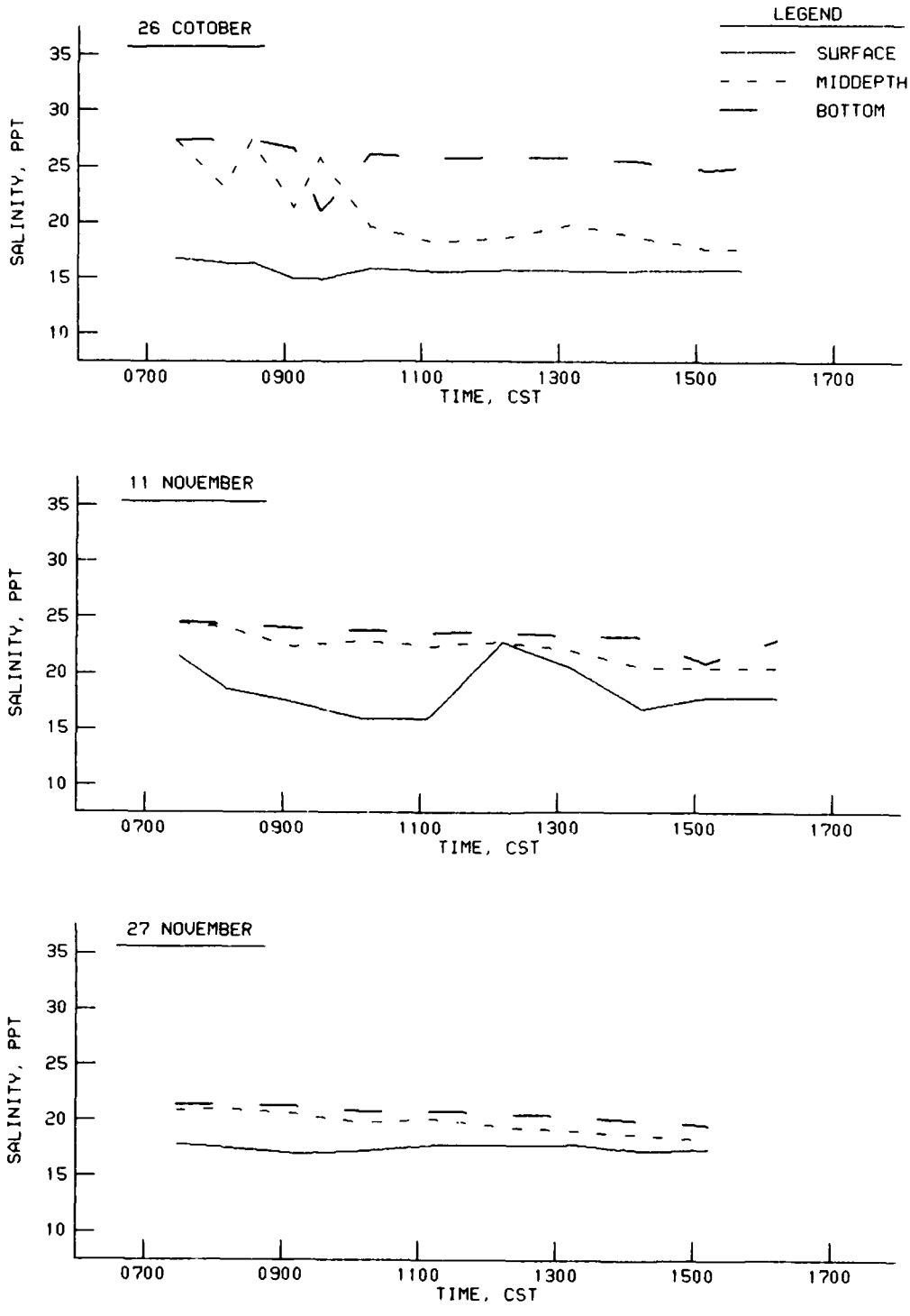


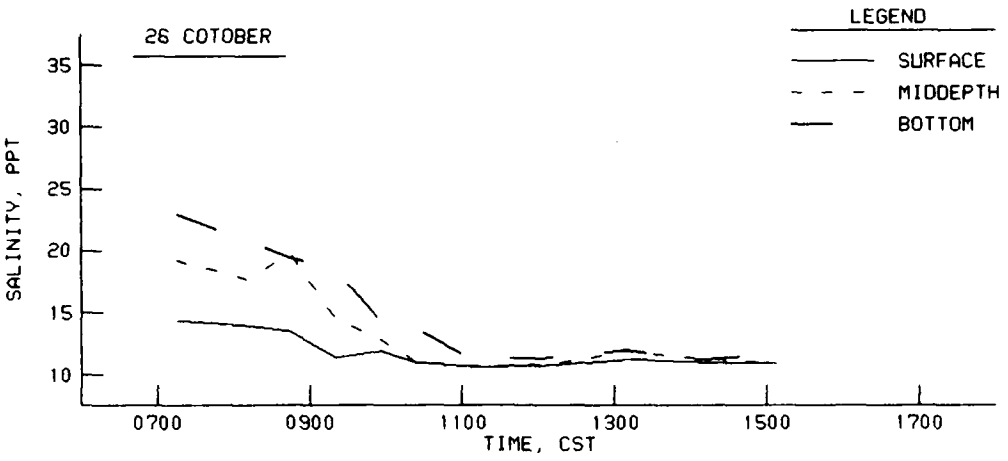

# SALINITY CONCENTRATIONS
# STATION 2-A
## OCTOBER - NOVEMBER 1988

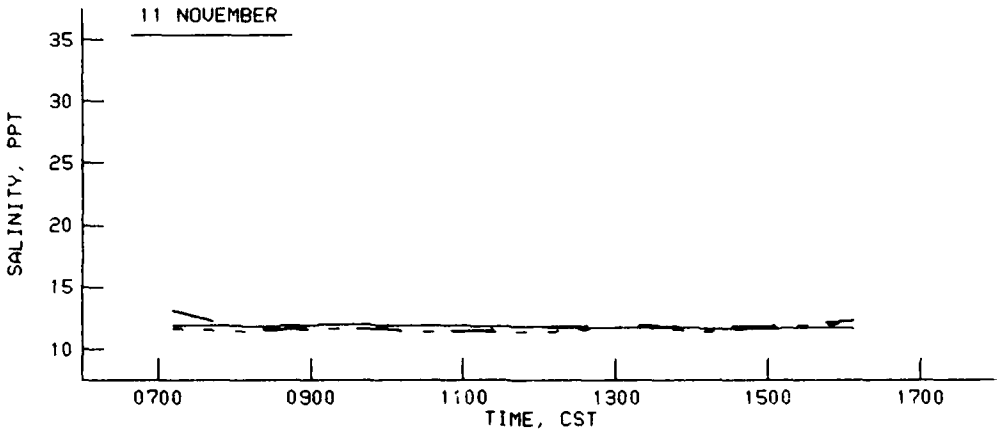
PLATE 44

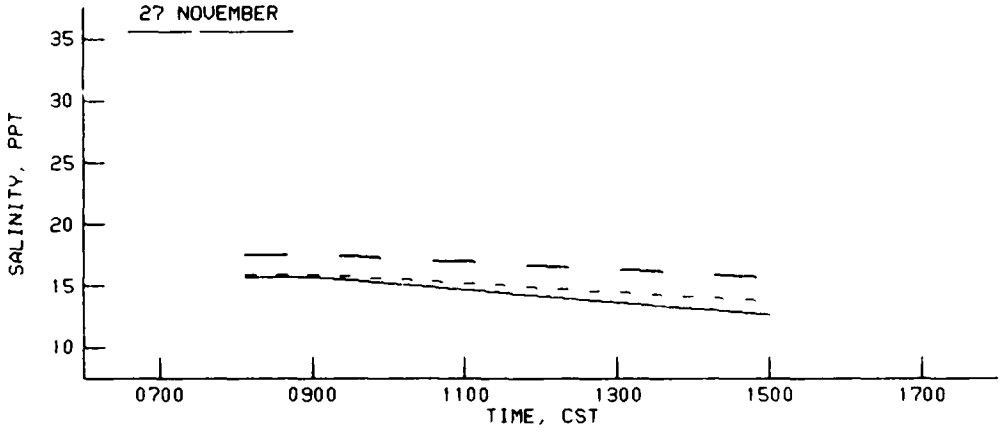



# SALINITY CONCENTRATIONS
# STATION 2-C
## OCTOBER - NOVEMBER 1988

PLATE 45

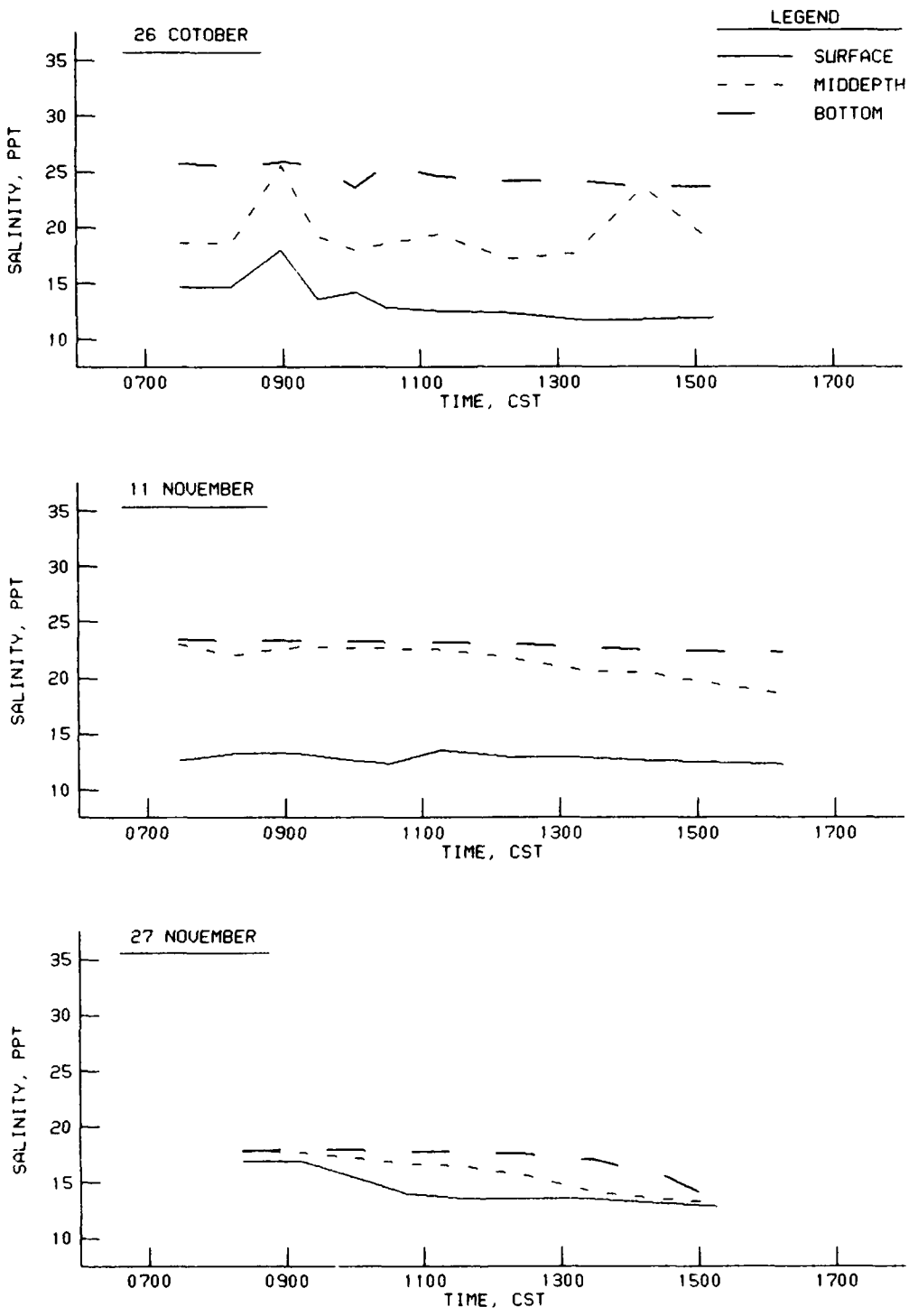


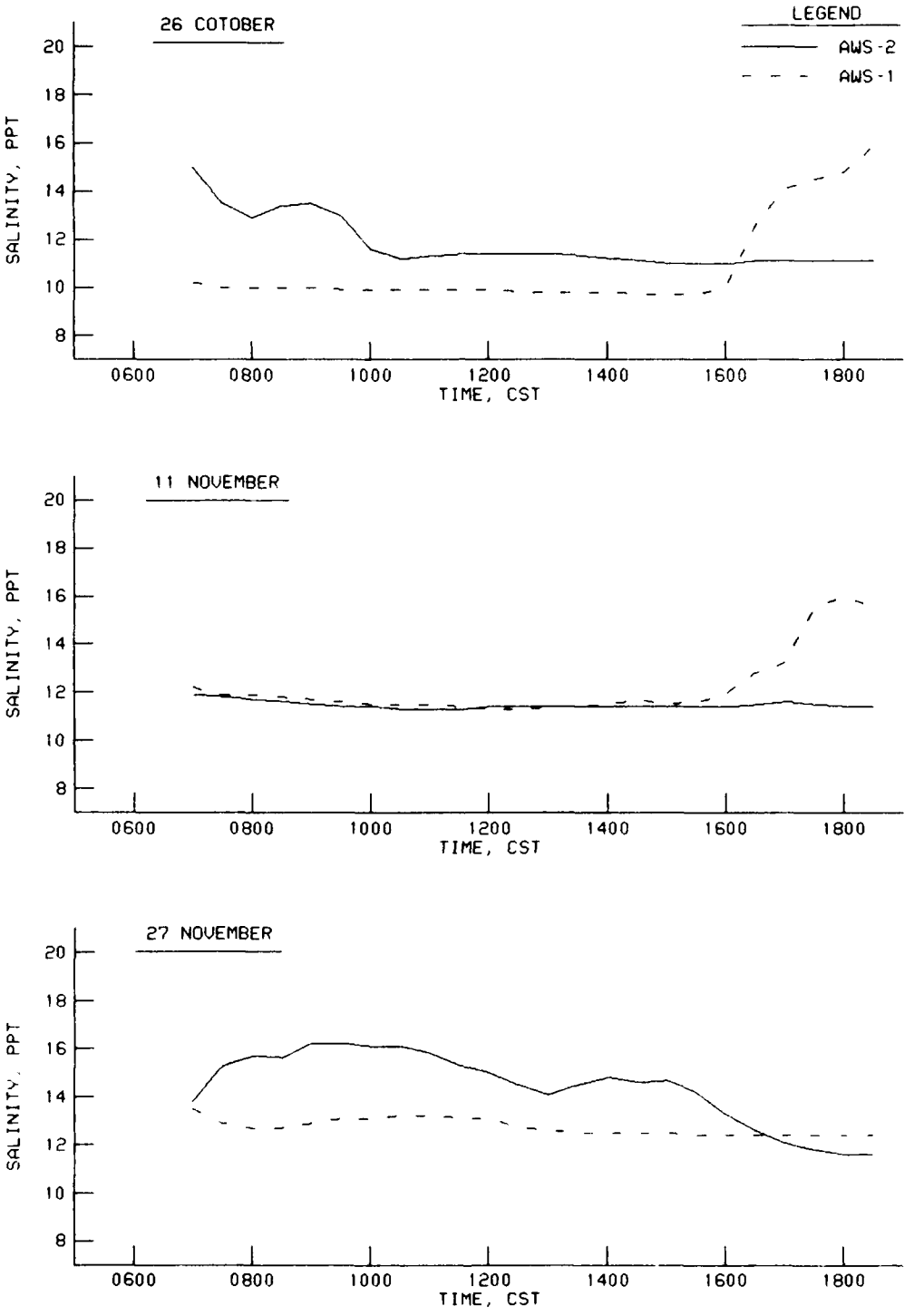

# SALINITY CONCENTRATIONS
# STATION 3-B
## OCTOBER - NOVEMBER 1988

PLATE 46



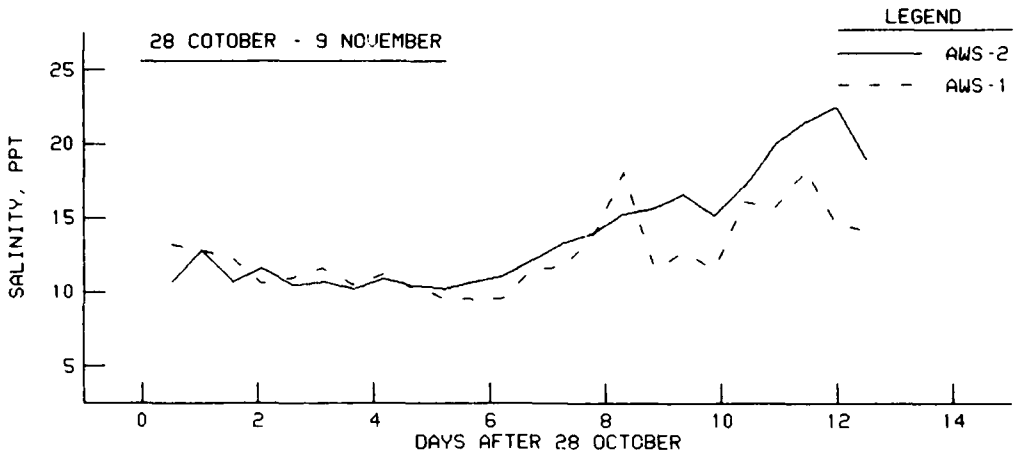

# SALINITY CONCENTRATIONS
# STATION 3-C
## OCTOBER - NOVEMBER 1988

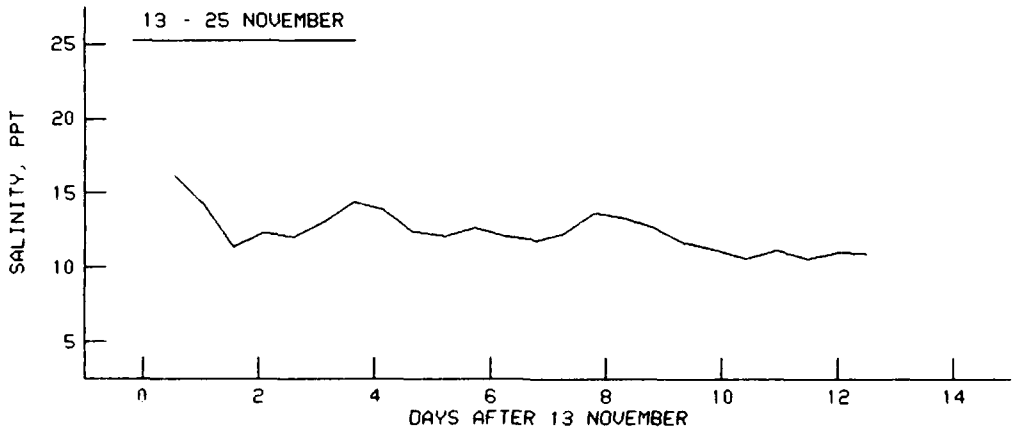
PLATE 47




**SALINITY CONCENTRATIONS**
**AUTOMATIC SAMPLERS**
**OCTOBER - NOVEMBER 1988**

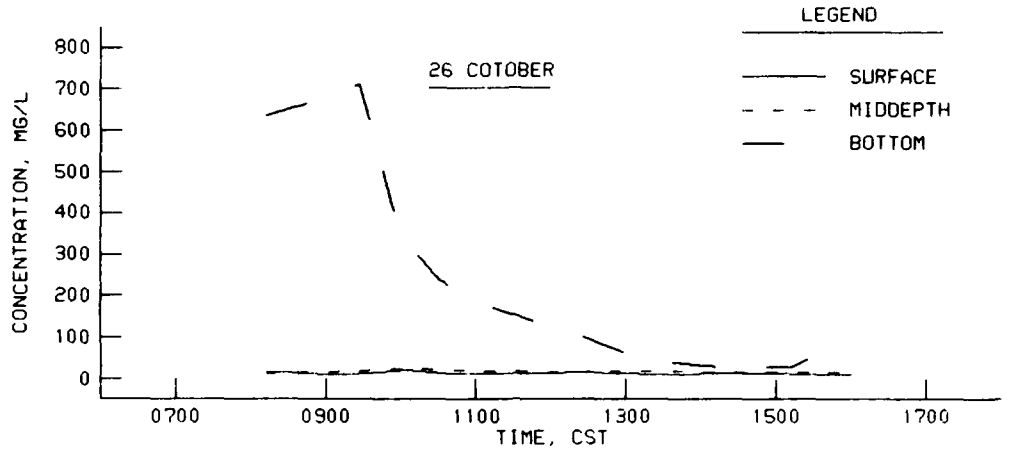
PLATE 48
(SHEET 1 OF 2)

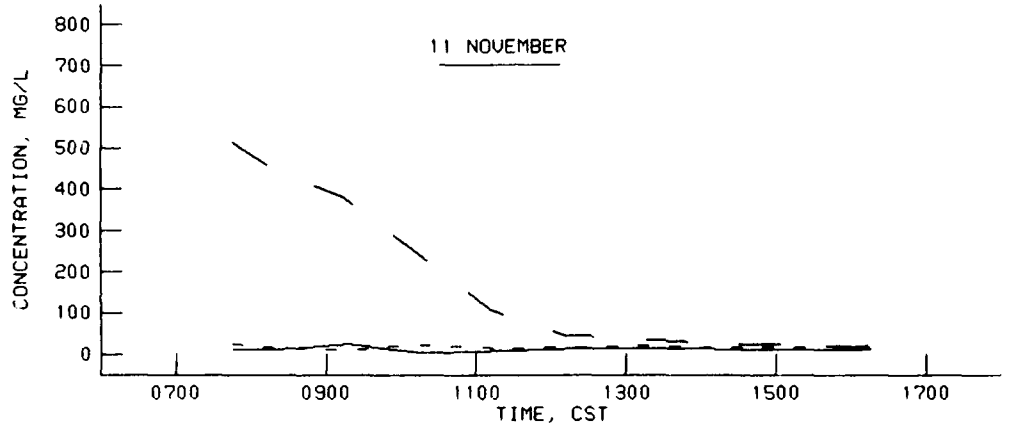


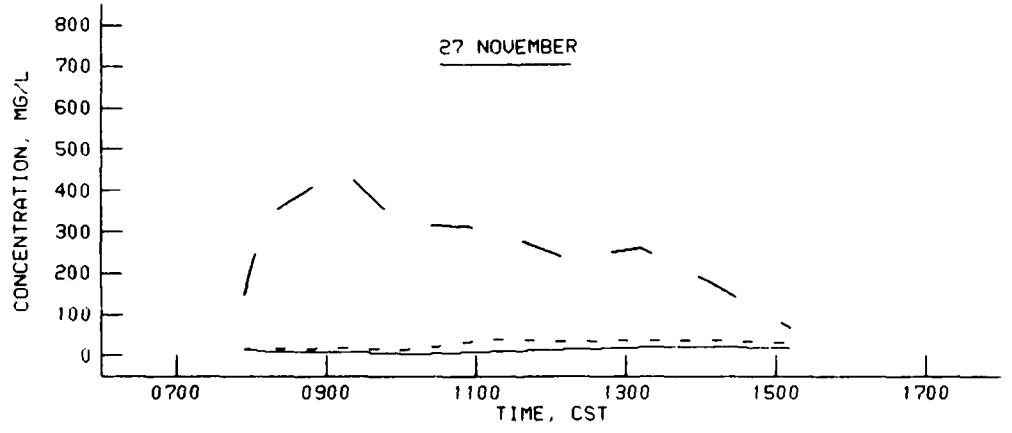




# SALINITY CONCENTRATIONS
# AUTOMATIC SAMPLERS
## OCTOBER - NOVEMBER 1988

PLATE 48
(SHEET 2 OF 2)

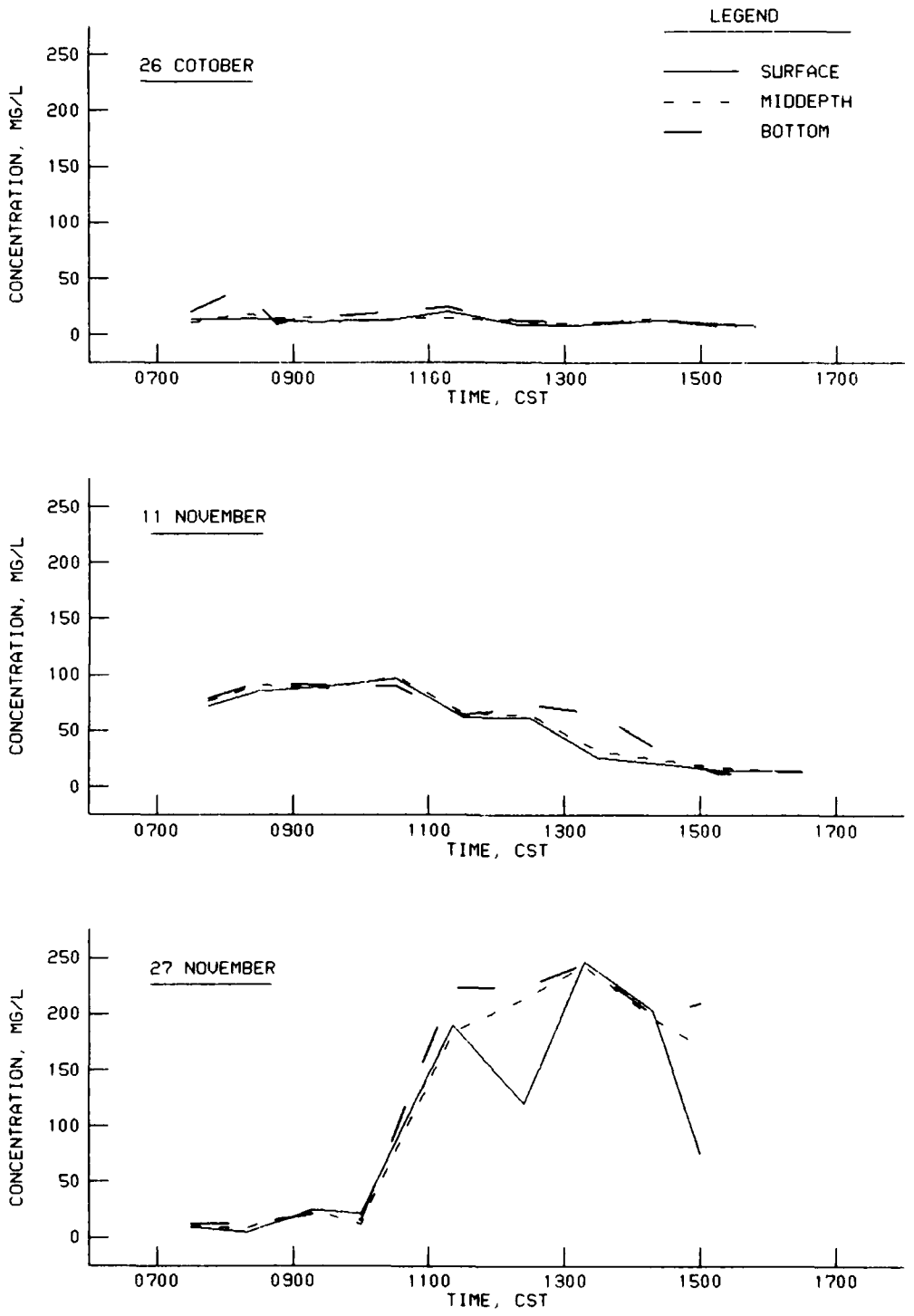


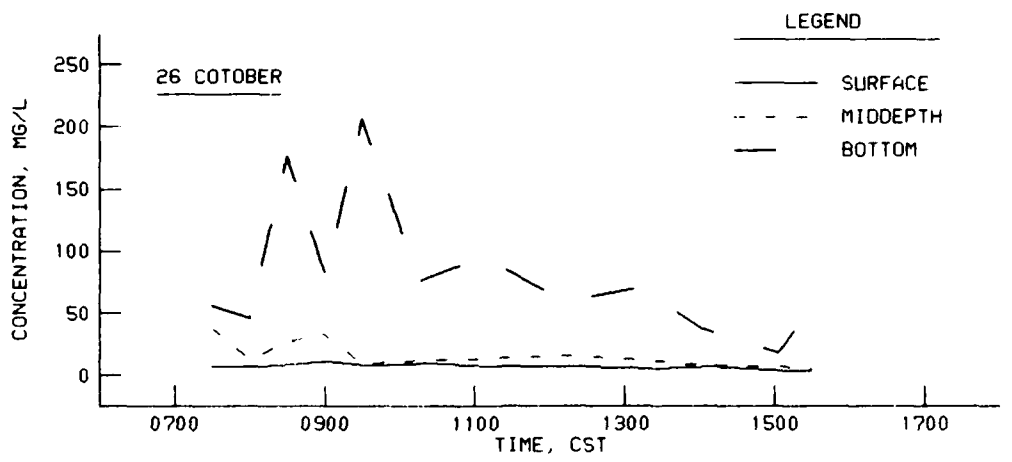

**SUSPENDED SEDIMENT CONCENTRATIONS**
**STATION 1-B**
**OCTOBER - NOVEMBER 1988**

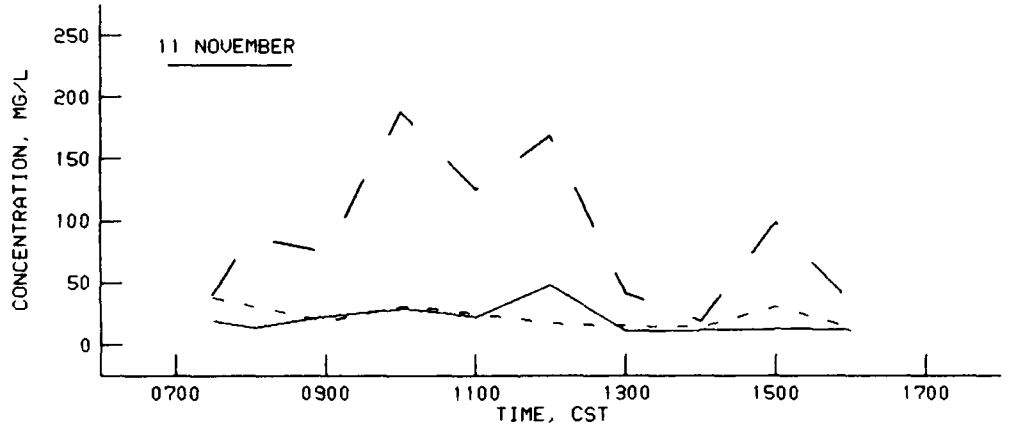
PLATE 49

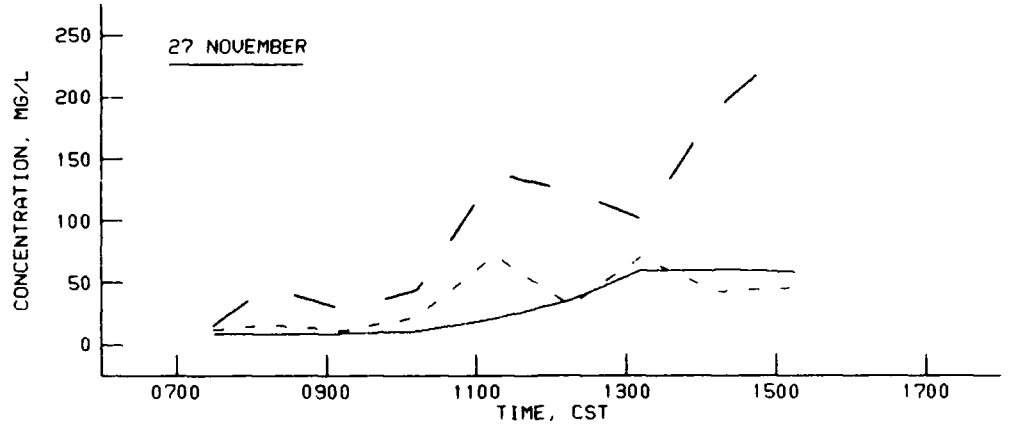



# SUSPENDED SEDIMENT CONCENTRATIONS
# STATION 2-A
## OCTOBER - NOVEMBER 1988

PLATE 50

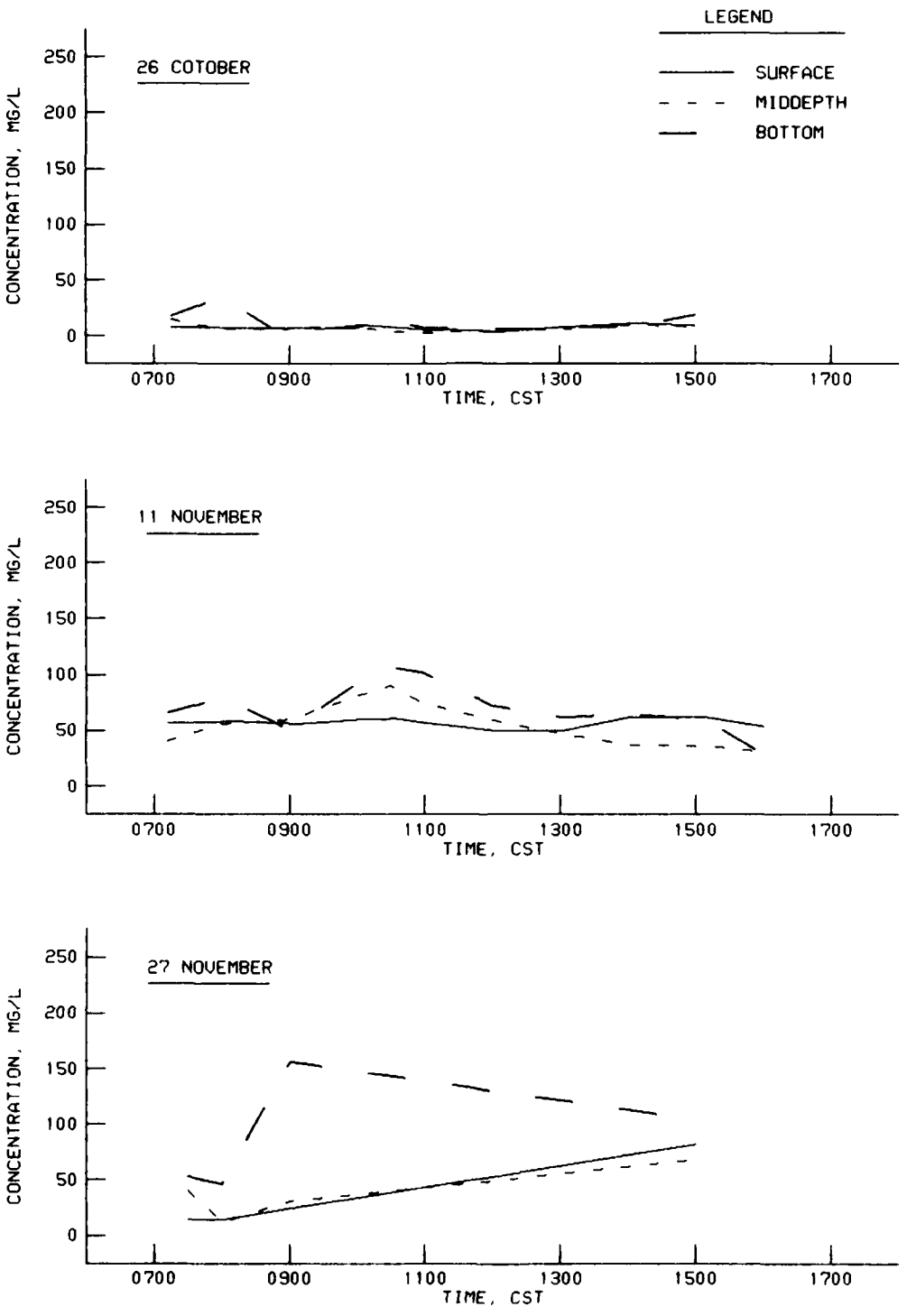


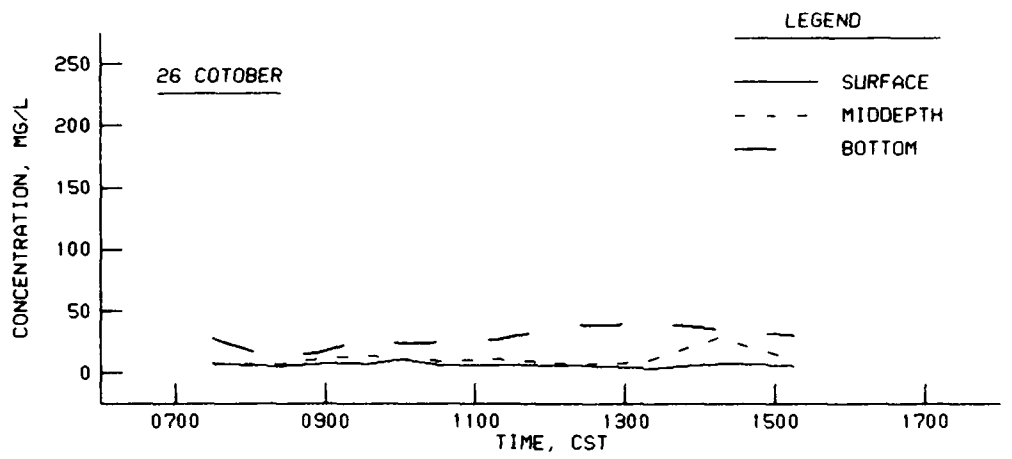

**SUSPENDED SEDIMENT CONCENTRATIONS**
**STATION 2-C**
**OCTOBER - NOVEMBER 1988**

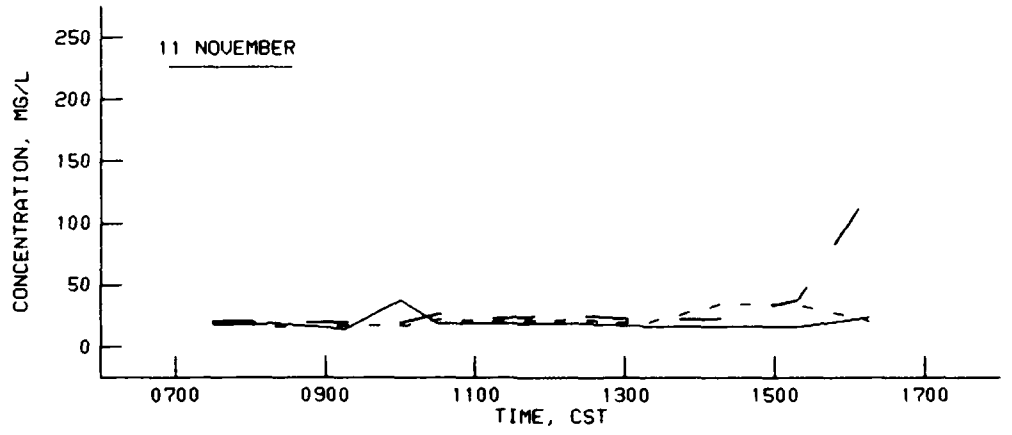
PLATE 51

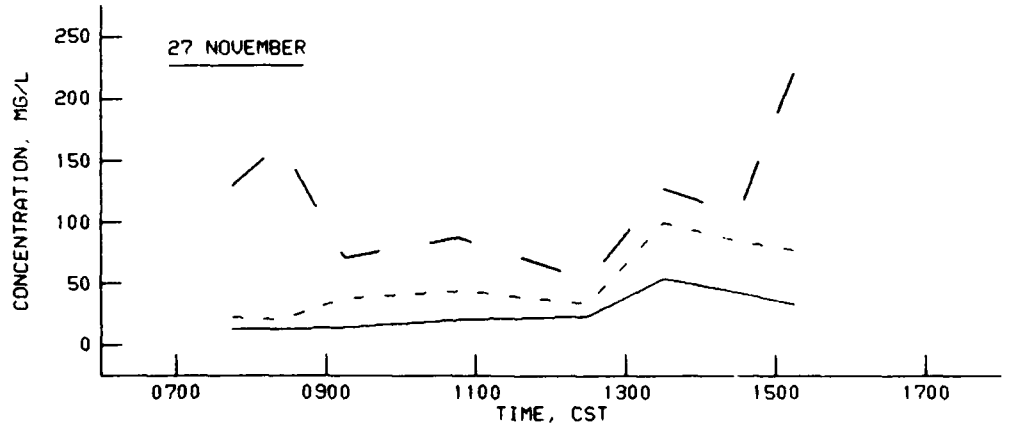



# SUSPENDED SEDIMENT CONCENTRATIONS
# STATION 3-B
## OCTOBER - NOVEMBER 1988

PLATE 52

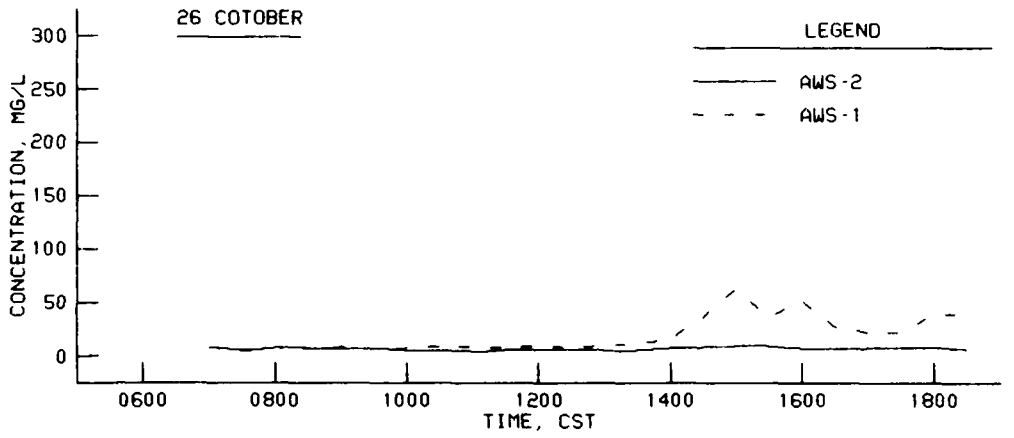


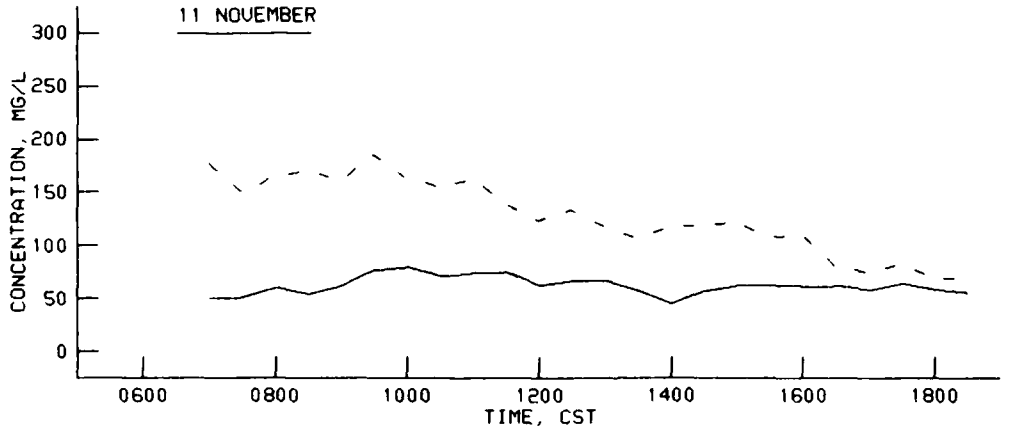



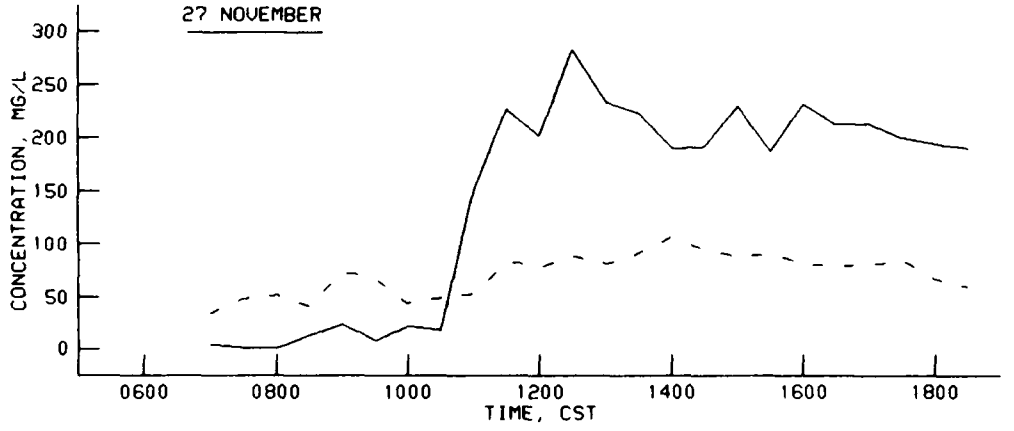




**SUSPENDED SEDIMENT CONCENTRATIONS**
**STATION 3-C**
**OCTOBER - NOVEMBER 1988**

PLATE 53

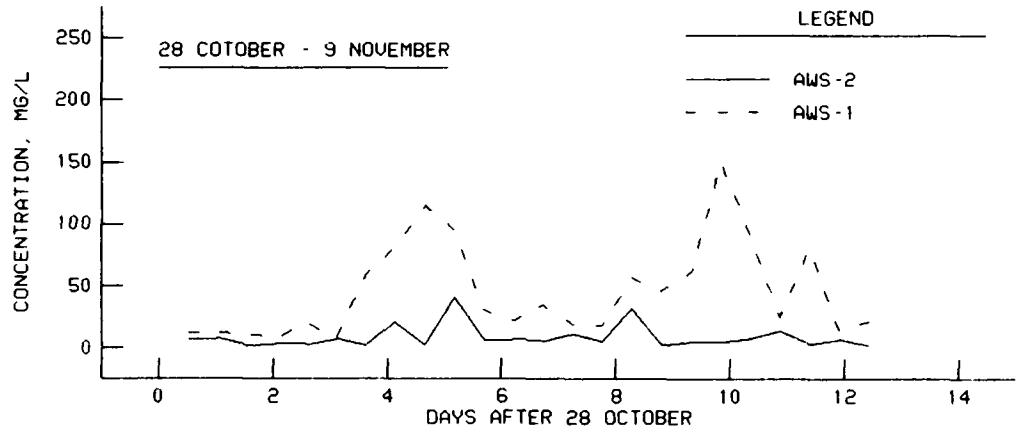


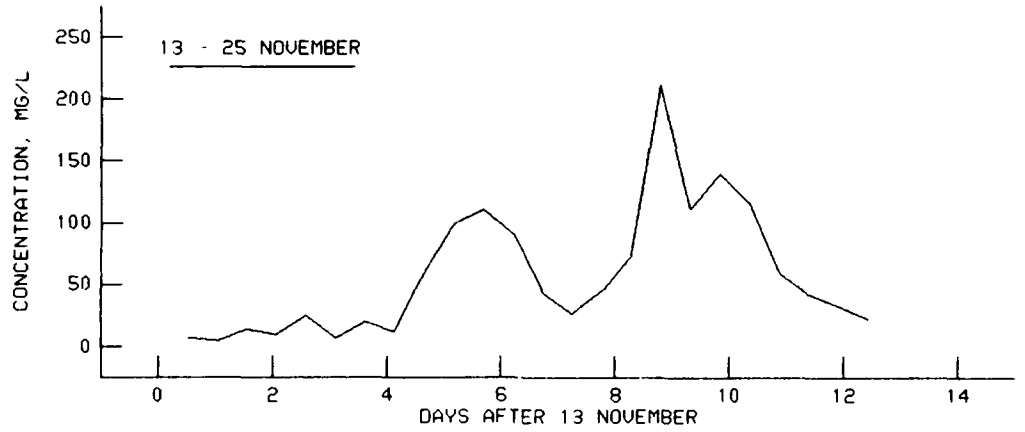




# SUSPENDED SEDIMENT CONCENTRATIONS
# AUTOMATIC SAMPLERS
## OCTOBER - NOVEMBER 1988

PLATE 54
(SHEET 1 OF 2)




## SUSPENDED SEDIMENT CONCENTRATIONS
## AUTOMATIC SAMPLERS
**OCTOBER - NOVEMBER 1988**

PLATE 54
(SHEET 2 OF 2)